

TM Forum Specification

Intent Management

TMF921

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|--------------------------------|---------------------------------|
| Maturity Level: Beta | Team Approved Date: 30-Apr-2024 |
| Release Status: Pre-production | Approval Status: Team Approved |
| Version 5.0.0 | IPR Mode: RAND |

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Introduction

This API supports the intent management API requirements as described in TMF921A (Intent management API Profile) including capabilities for setting the intent by the intent owner, reporting on intent by the intent handler and negotiating an intent between the Owner and the Handler.

The Intent Management API represents two main (REST) resources elements: Intent and IntentReport. One can extend these resources by following TMF API extension pattern. Support of polymorphic collections and types and schema-based extension is provided by means of a list of generic meta-attributes in TMF APIs (@type, @baseType, @referredType and @schemaLocation). Polymorphism in collections occurs when entities inherit from base entities. Generic support of polymorphism and pattern extensions is described in the TMF API Design Guidelines (TMF630 or TMF763) document.

The API will be released to allow applicable CRUD operations on API REST resources. However, the API operations are in subject to access control and can be limited depends on API user role. After a user presents his credentials for authentication, depending his validity of credentials he is given access to the API based on his role. For example, a User gets an error response if the user issues a Get on REST resource and he has no permission to access to that resource or if he tries to manipulate a resource but do not have Write Access. Normally we anticipate that the OAUTH2 or Open ID Connect are used as the authorization APIs and that ACL are established between authorized parties.

TMF921 Intent Management API Basics

This document details the model definition (see section Resource Model) as well as all available operations (see API Operations).

In this document, An **Intent** is the formal description of all expectations including requirements, goals, and constraints given to a technical system.

The followings are considered in this API model:

1. Intent has a single intent Expression.
2. The Expression is validated against the TMForum Intent Ontology which is a RDF based Ontology serialized in JSON-LD, Turtle, XML or YAML-LD. The expression itself can use one of 4 formats JSON-LD, Turtle, RDF/XML or YAML-LD. This guide will show JSON-LD expressions with Turtle examples added where appropriate.
3. Intents may have multiple IntentReports.
4. An IntentReport also has a single intent report Expression.
5. Possible actions are creating, updating, retrieving and deleting Intents (including filtering).
6. The specification covers also polymorphic subtypes of Intent used to perform intent negotiation. In this case, operations and notification of subtypes will be the same as operations and notifications of base intent class.

An Intent resource contains a set of expectations expressed (expression) in statements using a particular expression language. Expression is an abstract object that must be

extended by a concrete particular expression language object. Extended Expression has a expression value which is the ontology-encoded form of the Intent.

An **IntentReport** reports on the status of a given Intent instance. IntentReports are individual intent reports that are created for an intent and as part of the communication between intent management functions.

Sample Use Cases

Expressions - using the TM Forum Intent Ontology (TIO)

The foundation of intent driven operation is the life cycle management of intent objects and the expression of intent and the related intent reports. This is how humans communicate their requirements to the autonomous system and this is how sub-systems communicate requirements between each other and report on their success in operating accordingly. The TM Forum Intent Ontology (TIO) introduces the models that determine how an intent and its reports are expressed. This includes defining the modeling concepts and artifacts to be used when formulating intent. It formally defines the semantics of the detailed modeling artifacts to avoid ambiguities in model interpretation.

The Intent Ontology is comprised of a number of models and uses the respective namespaces as published by TM Forum or W3C.

The intent common model is based on the Resource Description Framework (RDF), the Resource Description Framework Schema (RDFS) and the Web Ontology Language (OWL). Intent and intent report objects are knowledge graphs in the form of an ontology. RDF, RDFS and OWL provide the base model stack for defining intent models. For example, classes in the intent model are derived from the definition of "Class" in RDFS. Properties in the intent model are respectively derived from the definition of "Property" in RDF. The time ontology model is used to allow the expression of time based conditions for creation of intent reports. If needed, additional models for time expression can be used. They would be introduced as intent extension models. The Ontology can be described using expression languages like JSON-LD (preferred for this API) or Terse RDF Triple Language (Turtle). Turtle is a serialization format of RDF knowledge graphs. It combines formal completeness with easy readability and is therefore ideal for presenting the intent common model components.

For more details please refer to the following TM Forum intent toolkit (a set of documents including IG1253, TMF921A, TR290, TR291, TR292, and TR293) describing intent ontology, use cases, common model, life cycle, reporting, and intent expression: <https://www.tmforum.org/toolkits/intent/>

The following snippet demonstrates the expression object usage in the API. It should be noted that Expression object is an abstract object and it is essential that the Expression object be extended by a concrete expression type, such as JsonLdExpression. Within this extended Expression object, both "expressionValue" and "@type" are required fields.

```
"expression": {
    "expressionValue": {"This should be replaced by a JSON-LD object"},
    "iri": "http://tio.models.tmforum.org/tio/v2.0.0/IntentCommonModel/",
    "@baseType": "Expression",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/JsonLdExpression.schema.json",
    "@type": "JsonLdExpression"
}
```

Expression must use one of the sub classes defined in this API. An IRI is an Internationalized Resource Identifier and is used by TIO to give a globally unique identifier to elements of the ontology.

Notes: Turtle allows prefix definitions capturing the initial and repetitive part of the URI. This considerably shortens the syntax and provides the benefit of significantly improved readability. A version of the intent common model is designated by a unique IRI. This means, a published model is immutable. Any modification therefore will be published under a new IRI giving it a unique namespace

CRUD Intent/IntentReport Use Cases

Intent/ IntentReport use cases include applicable CRUD operations for an Intent/IntentReport. An intent/IntentReport must have one of extended Expression objects as defined by TIO (please refer to TR290A for details on intent expressions).

Negotiating Intent Use Cases

Intent negotiation scenarios include Probe intent interaction, Judge/preference interaction and Best/propose interaction. Probe intent is supported by extending intent resource in this API. Judge/preference and Best/propose are supported by patching an existing Intent. Please refer to TMF921AAPI profile for more details on these use cases.

Support of polymorphism and extension patterns

Support of polymorphic collections and types and schema based extension is provided by means of a list of generic meta-attributes that we describe below. Polymorphism in collections occurs when entities inherit from base entities, for instance a BillingAccount and SettlementAccount inheriting properties from the abstract Account entity.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines, Part 2 TMF630 or TMF763.

The "@type" attribute serves as a means to specify the actual class type of an entity. In a list of Intent instances, for instance, some may be instances of ProbeIntent (as an extended Intent), while others may be instances of Intent. "@type" acts as a discriminator, providing this crucial information. All resources and sub-resources within this API possess a "@type" attribute, which is utilized when necessary. For resources and sub-resources capable of extension, "@type" is mandatory.

The @referredType can be used within reference entities (like for instance an AccountRef object) to explicitly denote the actual entity type of the referred class. Notice that in reference entities the @type, when used, denotes the class type of the reference itself, such as BillingAccountRef or SettlementAccountRef, and not the class type of the referred object. However since reference classes are rarely sub-classed, @type is generally not useful in reference objects.

The @schemaLocation property can be used in resources to allow specifying user-defined properties of an Entity or to specify the expected characteristics of an entity.

The @baseType attribute gives a way to provide explicitly the base of class of a given resource that has been extended.

RESOURCE MODEL

Managed Entity and Task Resource Models

Intent resource

An Intent instance is the formal description of all expectations including requirements, goals, and constraints given to a technical system.

Resource model

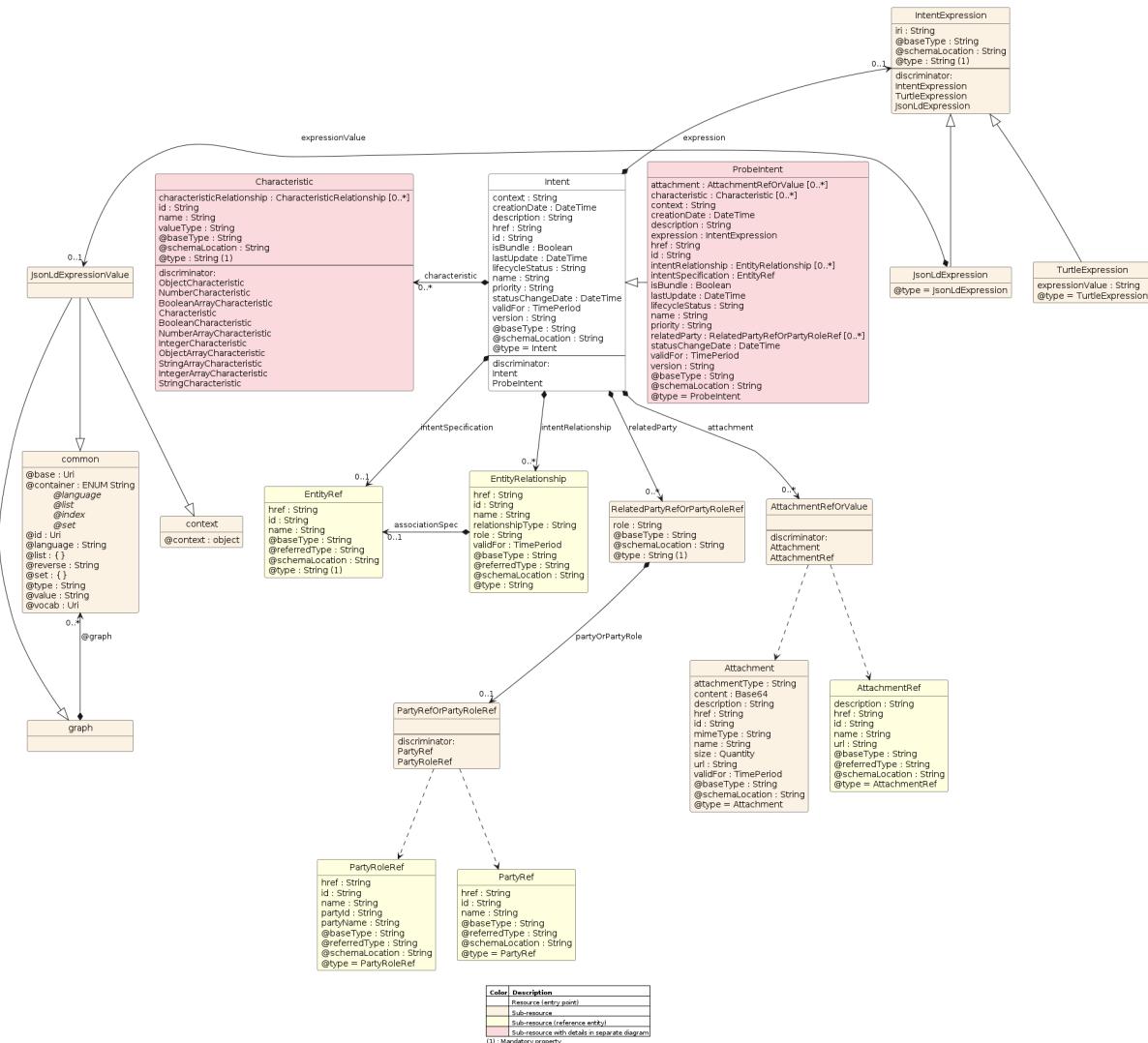


Figure 1 - Intent

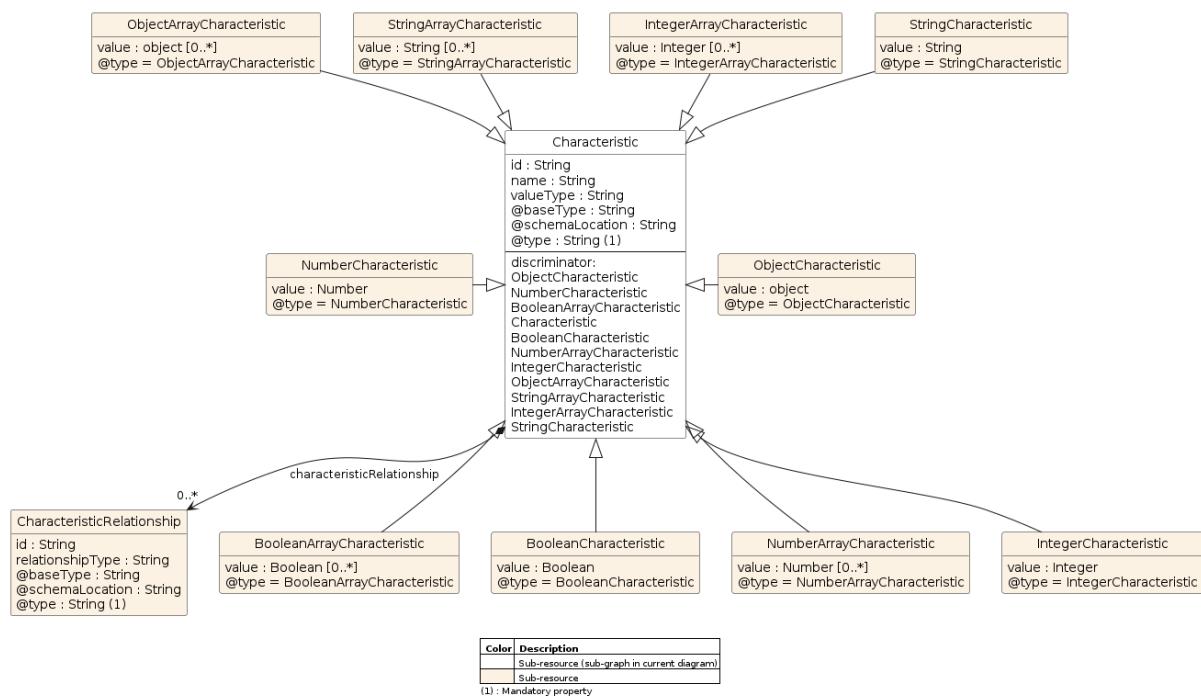


Figure 2 - Characteristic

Field descriptions

Intent fields

| | |
|---------------------|--|
| attachment | An AttachmentRefOrValue. Attachments that may be of relevance to this intent, such as picture, document, media. |
| characteristic | A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. |
| context | A String. A string used to give a context to the intent. |
| creationDate | A DateTime. Date and time of the creation of this REST resource. |
| description | A String. The description of the intent. |
| expression | An IntentExpression. An Intent expression. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| intentRelationship | An EntityRelationship. A list of intents related to this intent. |
| intentSpecification | An EntityRef. Entity reference schema to be use for all entityRef class. |
| isBundle | A Boolean. IsBundle determines whether an intent represents a single intent (false), or a bundle of intents(true). |
| lastUpdate | A DateTime. Date and time of the last update of this REST resource. |
| lifecycleStatus | A String. Used to indicate the current lifecycle status of this intent. |

| | |
|-------------------------------|---|
| <code>name</code> | A String. The name of the intent. |
| <code>priority</code> | A String. Can be used by intent owner to prioritize intents in an intent management system. |
| <code>relatedParty</code> | A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity. |
| <code>statusChangeDate</code> | A DateTime. A date time(DateTime). The date that the entity status changed to the current one. |
| <code>validFor</code> | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| <code>version</code> | A String. A field that identifies the specific version of an instance of an intent. |
| <code>@baseType</code> | A String. When sub-classing, this defines the super-class. |
| <code>@schemaLocation</code> | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| <code>@type</code> | A String. When sub-classing, this defines the sub-class Extensible name. |

Attachment sub-resource fields

| | |
|------------------------------|--|
| <code>attachmentType</code> | A String. A business characterization of the purpose of the attachment, for example logo, instructionManual, contractCopy. |
| <code>content</code> | A Base64. The actual contents of the attachment object, if embedded, encoded as base64. |
| <code>description</code> | A String. A narrative text describing the content of the attachment. |
| <code>href</code> | A String. Hyperlink reference. |
| <code>id</code> | A String. Unique identifier. |
| <code>MimeType</code> | A String. A technical characterization of the attachment content format using IETF Mime Types. |
| <code>name</code> | A String. The name of the attachment. |
| <code>size</code> | A Quantity. An amount in a given unit. |
| <code>url</code> | A String. Uniform Resource Locator, is a web page address (a subset of URI). |
| <code>validFor</code> | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| <code>@baseType</code> | A String. When sub-classing, this defines the super-class. |
| <code>@schemaLocation</code> | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| <code>@type</code> | A String. When sub-classing, this defines the sub-class Extensible name. |

AttachmentRef sub-resource fields

| | |
|-----------------|---|
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| url | A String. Link to the attachment media/content. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

BooleanArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Boolean. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

BooleanCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Boolean. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Characteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

CharacteristicRelationship sub-resource fields

| | |
|------------------|---|
| id | A String. Unique identifier of the characteristic. |
| relationshipType | A String. The type of relationship. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntityRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntityRelationship sub-resource fields

| | |
|-----------------|--|
| associationSpec | An EntityRef. Entity reference schema to be use for all entityRef class. |
| href | A String. |
| id | A String. |

| | |
|------------------|--|
| name | A String. |
| relationshipType | A String. Type of relationship such as migration, substitution, dependency, exclusivity. |
| role | A String. The association role for this entity. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. |

IntegerArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An Integer. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

IntegerCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An Integer. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

IntentExpression sub-resource fields

| | |
|-----------------|---|
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

JsonLdExpression sub-resource fields

| | |
|-----------------|---|
| expressionValue | A JsonLdExpressionValue. Json LD expression value schema. |
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

NumberArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Number. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

NumberCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Number. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |

| | |
|-----------------|---|
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ObjectArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An object. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ObjectCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An object. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRef sub-resource fields

| | |
|---------------|--|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |

| | |
|-----------------|---|
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRoleRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| partyId | A String. The identifier of the engaged party that is linked to the PartyRole object. |
| partyName | A String. The name of the engaged party that is linked to the PartyRole object. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

RelatedPartyRefOrPartyRoleRef sub-resource fields

| | |
|------------------|--|
| partyOrPartyRole | A PartyRefOrPartyRoleRef. |
| role | A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StringArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A String. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |

| | |
|-----------------|---|
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StringCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A String. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

TurtleExpression sub-resource fields

| | |
|-----------------|--|
| expressionValue | A String. Turtle Expression value is the ontology-encoded form of the Intent as Turtle RDF as defined in https://www.w3.org/TR/turtle/ . |
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

common sub-resource fields

| | |
|------------|---|
| @base | A Uri. Used to set the base IRI against which relative IRIs are resolved. |
| @container | A String. Used to set the default container type for a term. |
| @id | A Uri. Used to uniquely identify things that are being described in the document with IRIs or blank node identifiers. |
| @language | A String. Used to specify the language for a particular string value or the default language of a JSON-LD document. |
| @list | A {}. Used to express an ordered set of data. |
| @reverse | A String. Used to express reverse properties. |

| | |
|--------|---|
| @set | A {} . Used to express an unordered set of data and to ensure that values are always represented as arrays. |
| @type | A String. Used to set the data type of a node or typed value. |
| @value | A String. Used to specify the data that is associated with a particular property in the graph. |
| @vocab | A Uri. Used to expand properties and values in @type with a common prefix IRI. |

context sub-resource fields

| | |
|----------|---|
| @context | An object. Used to define the short-hand names that are used throughout a JSON-LD document. |
|----------|---|

graph sub-resource fields

| | |
|--------|------------------------------------|
| @graph | A common. Used to express a graph. |
|--------|------------------------------------|

Json representation sample(s)

We provide below a JSON representation as example of the 'Intent' resource object.

```
{
  "id": "20011",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
  "creationDate": "2022-07-04T15:40:47.797Z",
  "description": "An intent resource",
  "lastUpdate": "2022-07-04T15:40:47.797Z",
  "lifecycleStatus": "Active",
  "name": "IntentA",
  "statusChangeDate": "2022-07-04T15:40:47.797Z",
  "version": "1.0",
  "priority": "1",
  "isBundled": false,
  "context": "Autonomous services",
  "expression": {
    "expressionValue": {
      "@context": {
        "name": "http://rdf.data-vocabulary.org/#name",
        "ingredient": "http://rdf.data-vocabulary.org/#ingredients",
        "yield": "http://rdf.data-vocabulary.org/#yield",
        "instructions": "http://rdf.data-vocabulary.org/#instructions",
        "step": {
          "@id": "http://rdf.data-vocabulary.org/#step",
          "@type": "xsd:integer"
        },
        "description": "http://rdf.data-vocabulary.org/#description",
        "xsd": "http://www.w3.org/2001/XMLSchema#"
      },
      "@graph": [
        {
          "@id": "_:b0",
          "http://www.w3.org/2006/time#inXSDDateTimeStamp": {
            "@type": "xsd:dateTime",
            "@value": "'2022-12-01T10:30:10+10:00'"
          }
        }
      ]
    }
  }
}
```

```
        },
        {
            "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#R1_PSE_Res_Slice_Intent1_Report_1",
            "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#IntentReport",

"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#currentIntentHandlingState": {
                "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateDegraded"
            },

"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#currentIntentUpdateState": {
                "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateNoUpdate"
            },

"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#hasExpectationReport": [
                {
                    "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_delivery_report"
                },
                {
                    "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_report"
                },
                {
                    "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_reporting_report"
                }
            ],
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportNumber": 1,
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportTimestamp": {
                "@id": "_:b0"
            },
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
                "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#R1_PSE_Res_Slice_Intent1"
            },
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#intentHandler": {
                "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#IntentManagerABC_R"
            },
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#intentOwner": {
                "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#IntentManagerXYZ_S"
            },
            "http://www.w3.org/2000/01/rdf-schema#comment": "'Intent'"
        ]
    },
    {
        "@id": "R1_PSE_Res_Slice_Intent1"
    }
],
```

```
"iri": "http://tio.models.tmforum.org/tio/v2.0.0/IntentCommonModel/" ,  
    "@baseType": "Expression" ,  
    "@schemaLocation": "https://mycsp.com:8080/tmf-  
api/schema/Common/JsonLdExpression.schema.json" ,  
    "@type": "JsonLdExpression"  
} ,  
"validFor": {  
    "endDateTime": "2023-04-12T23:20:50.52Z" ,  
    "startDateTime": "2022-07-04T15:40:47.797Z"  
} ,  
"@baseType": "" ,  
"@schemaLocation": "https://mycsp.com:8080/tmf-  
api/schema/Common/Intent.schema.json" ,  
"@type": "Intent"  
}
```

ProbeIntent resource

An Probe Intent instance is the formal description of all expectations including requirements, goals, and constraints given to a technical system.

Resource model



Figure 3 - ProbeIntent

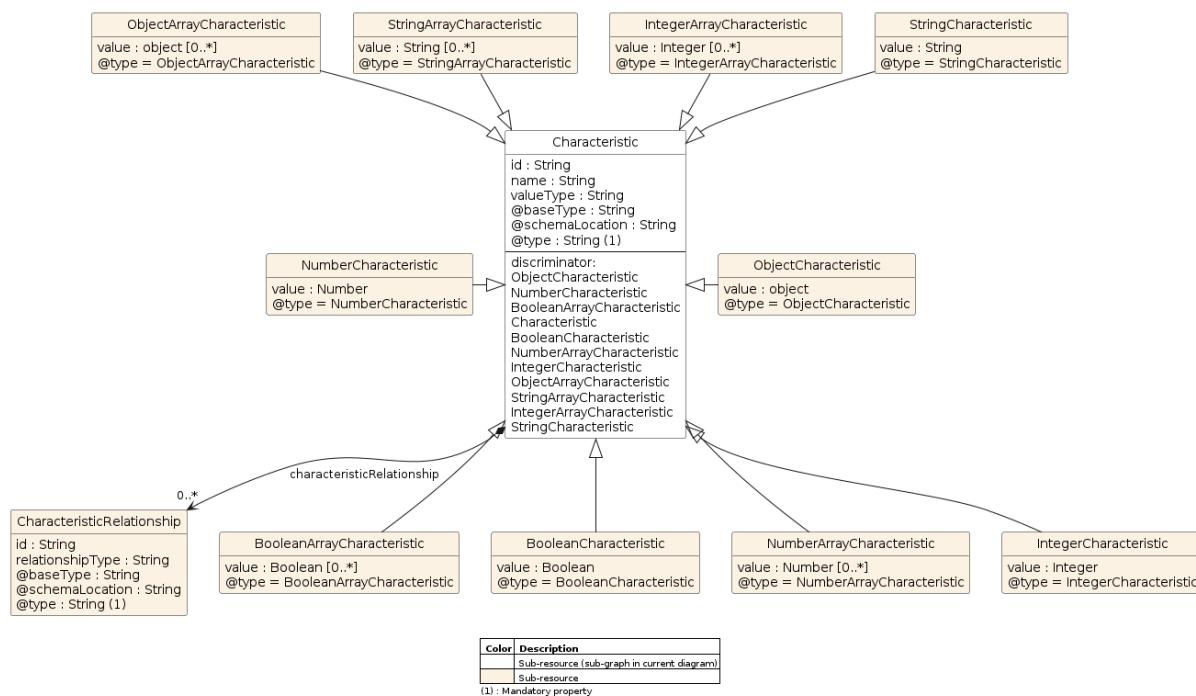


Figure 4 - Characteristic

Field descriptions

Attachment sub-resource fields

| | |
|-----------------|--|
| attachmentType | A String. A business characterization of the purpose of the attachment, for example logo, instructionManual, contractCopy. |
| content | A Base64. The actual contents of the attachment object, if embedded, encoded as base64. |
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| MimeType | A String. A technical characterization of the attachment content format using IETF Mime Types. |
| name | A String. The name of the attachment. |
| size | A Quantity. An amount in a given unit. |
| url | A String. Uniform Resource Locator, is a web page address (a subset of URI). |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |

| | |
|-------|--|
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |
|-------|--|

AttachmentRef sub-resource fields

| | |
|-----------------|---|
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| url | A String. Link to the attachment media/content. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

BooleanArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Boolean. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

BooleanCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Boolean. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |

| | |
|-----------------|---|
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Characteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

CharacteristicRelationship sub-resource fields

| | |
|------------------|---|
| id | A String. Unique identifier of the characteristic. |
| relationshipType | A String. The type of relationship. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntityRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntityRelationship sub-resource fields

| | |
|------------------|--|
| associationSpec | An EntityRef. Entity reference schema to be use for all entityRef class. |
| href | A String. |
| id | A String. |
| name | A String. |
| relationshipType | A String. Type of relationship such as migration, substitution, dependency, exclusivity. |
| role | A String. The association role for this entity. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. |

IntegerArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An Integer. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

IntegerCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An Integer. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |

| | |
|-----------------|---|
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Intent sub-resource fields

| | |
|---------------------|---|
| attachment | An AttachmentRefOrValue. Attachments that may be of relevance to this intent, such as picture, document, media. |
| characteristic | A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. |
| context | A String. A string used to give a context to the intent. |
| creationDate | A DateTime. Date and time of the creation of this REST resource. |
| description | A String. The description of the intent. |
| expression | An IntentExpression. An Intent expression. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| intentRelationship | An EntityRelationship. A list of intents related to this intent. |
| intentSpecification | An EntityRef. Entity reference schema to be use for all entityRef class. |
| isBundle | A Boolean. IsBundle determines whether an intent represents a single intent (false), or a bundle of intents(true). |
| lastUpdate | A DateTime. Date and time of the last update of this REST resource. |
| lifecycleStatus | A String. Used to indicate the current lifecycle status of this intent. |
| name | A String. The name of the intent. |
| priority | A String. Can be used by intent owner to prioritize intents in an intent management system. |
| relatedParty | A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity. |
| statusChangeDate | A DateTime. A date time(DateTime). The date that the entity status changed to the current one. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| version | A String. A field that identifies the specific version of an instance of an intent. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |

| | |
|-------|--|
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |
|-------|--|

IntentExpression sub-resource fields

| | |
|-----------------|---|
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

JsonLdExpression sub-resource fields

| | |
|-----------------|---|
| expressionValue | A JsonLdExpressionValue. Json LD expression value schema. |
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

NumberArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Number. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

NumberCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |

| | |
|-----------------|---|
| name | A String. Name of the characteristic. |
| value | A Number. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ObjectArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An object. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ObjectCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An object. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRef sub-resource fields

| | |
|------|--------------------------------|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |

| | |
|------------------------------|---|
| <code>name</code> | A String. Name of the referred entity. |
| <code>@baseType</code> | A String. When sub-classing, this defines the super-class. |
| <code>@referredType</code> | A String. The actual type of the target instance when needed for disambiguation. |
| <code>@schemaLocation</code> | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| <code>@type</code> | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRoleRef sub-resource fields

| | |
|------------------------------|---|
| <code>href</code> | A String. Hyperlink reference. |
| <code>id</code> | A String. Unique identifier. |
| <code>name</code> | A String. Name of the referred entity. |
| <code>partyId</code> | A String. The identifier of the engaged party that is linked to the PartyRole object. |
| <code>partyName</code> | A String. The name of the engaged party that is linked to the PartyRole object. |
| <code>@baseType</code> | A String. When sub-classing, this defines the super-class. |
| <code>@referredType</code> | A String. The actual type of the target instance when needed for disambiguation. |
| <code>@schemaLocation</code> | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| <code>@type</code> | A String. When sub-classing, this defines the sub-class Extensible name. |

RelatedPartyRefOrPartyRoleRef sub-resource fields

| | |
|-------------------------------|--|
| <code>partyOrPartyRole</code> | A PartyRefOrPartyRoleRef. |
| <code>role</code> | A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'. |
| <code>@baseType</code> | A String. When sub-classing, this defines the super-class. |
| <code>@schemaLocation</code> | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| <code>@type</code> | A String. When sub-classing, this defines the sub-class Extensible name. |

StringArrayCharacteristic sub-resource fields

| | |
|---|--|
| <code>characteristicRelationship</code> | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| <code>id</code> | A String. Unique identifier of the characteristic. |

| | |
|-----------------|---|
| name | A String. Name of the characteristic. |
| value | A String. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StringCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A String. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

TurtleExpression sub-resource fields

| | |
|-----------------|--|
| expressionValue | A String. Turtle Expression value is the ontology-encoded form of the Intent as Turtle RDF as defined in https://www.w3.org/TR/turtle/ . |
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

common sub-resource fields

| | |
|------------|---|
| @base | A Uri. Used to set the base IRI against which relative IRIs are resolved. |
| @container | A String. Used to set the default container type for a term. |
| @id | A Uri. Used to uniquely identify things that are being described in the document with IRIs or blank node identifiers. |

| | |
|-----------|---|
| @language | A String. Used to specify the language for a particular string value or the default language of a JSON-LD document. |
| @list | A []. Used to express an ordered set of data. |
| @reverse | A String. Used to express reverse properties. |
| @set | A []. Used to express an unordered set of data and to ensure that values are always represented as arrays. |
| @type | A String. Used to set the data type of a node or typed value. |
| @value | A String. Used to specify the data that is associated with a particular property in the graph. |
| @vocab | A Uri. Used to expand properties and values in @type with a common prefix IRI. |

context sub-resource fields

| | |
|----------|---|
| @context | An object. Used to define the short-hand names that are used throughout a JSON-LD document. |
|----------|---|

graph sub-resource fields

| | |
|--------|------------------------------------|
| @graph | A common. Used to express a graph. |
|--------|------------------------------------|

Json representation sample(s)

We provide below a JSON representation as example of the 'ProbeIntent' resource object.

```
{
  "id": "20051",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20051",
  "description": "A probe intent resource",
  "name": "probeIntentExample",
  "version": "1.0",
  "expression": {
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/turtleExpression-example-1",
    "expressionValue": "@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .\n@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .\n@prefix icm: <http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .\n@prefix imo: <http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .\n@prefix pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .\n@prefix cat: <http://www.operator.com/Catalog#> .\n@prefix spot: <http://www.sdo1.org/Models/DynamicpriceOntology#> .\n@prefix met: <http://www.sdo2.org/TelecomMetrics/Version_1.0#> .\n@prefix t: <http://www.w3.org/2006/time#> .\n@prefix idan: <http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#> .\n@prefix iv: <https://tmforum.org/2021/07/intentValidity#> .\n@prefix itv: <https://tmforum.org/2021/07/intentTemporalValidity#> .\n@prefix cem: <http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .\n@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .\n@prefix sli: <http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .\n\n# --- Intent\n-----\nidan:R1_PSE_Res_Slice_Intent1\n  a icm:Intent ;\n  rdfs:comment\n  \"'Intent for ordering connectivity via slice'\";\n  imo:intentOwner\n  idan:IntentManagerXYZ_S;\n  cem:layer \"'resource'\";\n  icm:hasExpectation\n  idan:PSE_Exp_R1Slice_delivery,\n
```

```

idan:PSE_Exp_R1Slice_property,\n
idan:PSE_Exp_R1Slice_reporting; \n.\n##Delivery\n
Expectation\nidan:PSE_Exp_R1Slice_delivery\n a icm:DeliveryExpectation ;\n
icm:target _:resource_slice ;\n    icm:params\n
idan:PSE_Exp_R1Slice_delivery_Param_type;\n.\nidan:PSE_Exp_R1Slice_delivery_Param_ty
pe\n a icm:DeliveryParam ;\n    icm:targetDescription\n
cat:Slice_NEST_eMBB;\n.\n\n##Property Expectation\nidan:PSE_Exp_R1Slice_property\n a
icm:PropertyExpectation ;\n    icm:target _:resource_slice ;\n    icm:params\n
idan:PSE_Exp_R1Slice_property_Param_nssiId , \n
idan:PSE_Exp_R1Slice_property_Param_nssiName , \n
idan:PSE_Exp_R1Slice_property_Param_nsiId , \n
idan:PSE_Exp_R1Slice_property_Param_latency\n.\nidan:PSE_Exp_R1Slice_property_Para
m_nssiId\n a icm:PropertyParams ;\n    sli:nssiId [ icm:value \"'NEST-
EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]\n
;.\nidan:PSE_Exp_R1Slice_property_Param_nssiName\n a icm:PropertyParams ;\n
sli:nssiName [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\nidan:PSE_Exp_R1Slice_property_Param_nsiId\n a icm:PropertyParams ;\n
sli:nsiId [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\nidan:PSE_Exp_R1Slice_property_Param_latency\n a icm:PropertyParams ;\n
met:latency [ icm:atMost '\"12 ms'\\" ] ;\n.\n\n##Reporting\n
Expectation\nidan:PSE_Exp_R1Slice_reporting\n a icm:ReportingExpectation ;\n
icm:target idan:R1_PSE_Res_Slice_Intent1 ;\n    icm:params\n
idan:PSE_Exp_R1Slice_reporting_Param_interval,\n
idan:PSE_Exp_R1Slice_reporting_Param_event\n
;.\nidan:PSE_Exp_R1Slice_reporting_Param_interval\n a icm:ReportingParam ;\n
icm:reportingInterval [ a t:Duration ;\n
t:numericDuration '\"10'\\" ;\n                                t:temporalUnit
t:unitMinute ] .\nidan:PSE_Exp_R1Slice_reporting_Param_event\n
icm:ReportingParam ;\n    icm:reportingEvent icm:ReportingIntervalExpired ,\n
icm:IntentRejected ,\n                                icm:StateComplies ,\n
icm:StateDegrades ,\n                                icm:HandlingEnded ,\n
icm:UpdateRejected ,\n                                icm:UpdateFinished ;\n.\n\n",
"@baseType": "Expression",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/TurtleExpression.schema.json",
"@type": "TurtleExpression"
},
"validFor": {
  "endDateTime": "2023-04-12T23:20:50.52Z",
  "startDateTime": "2022-08-04T15:40:47.797Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
  "@type": "IntentSpecificationRef",
  "id": "EventLiveBroadcast_IntentSpec",
  "name": "EventLiveBroadcastIntentSpec",
  "@referredType": "IntentSpecification",
  "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2023-03-09T08:42:33.044Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}
}

```

IntentReport resource

IntentReport is the mechanism to report back to Intent owner on an Intents status.

Resource model

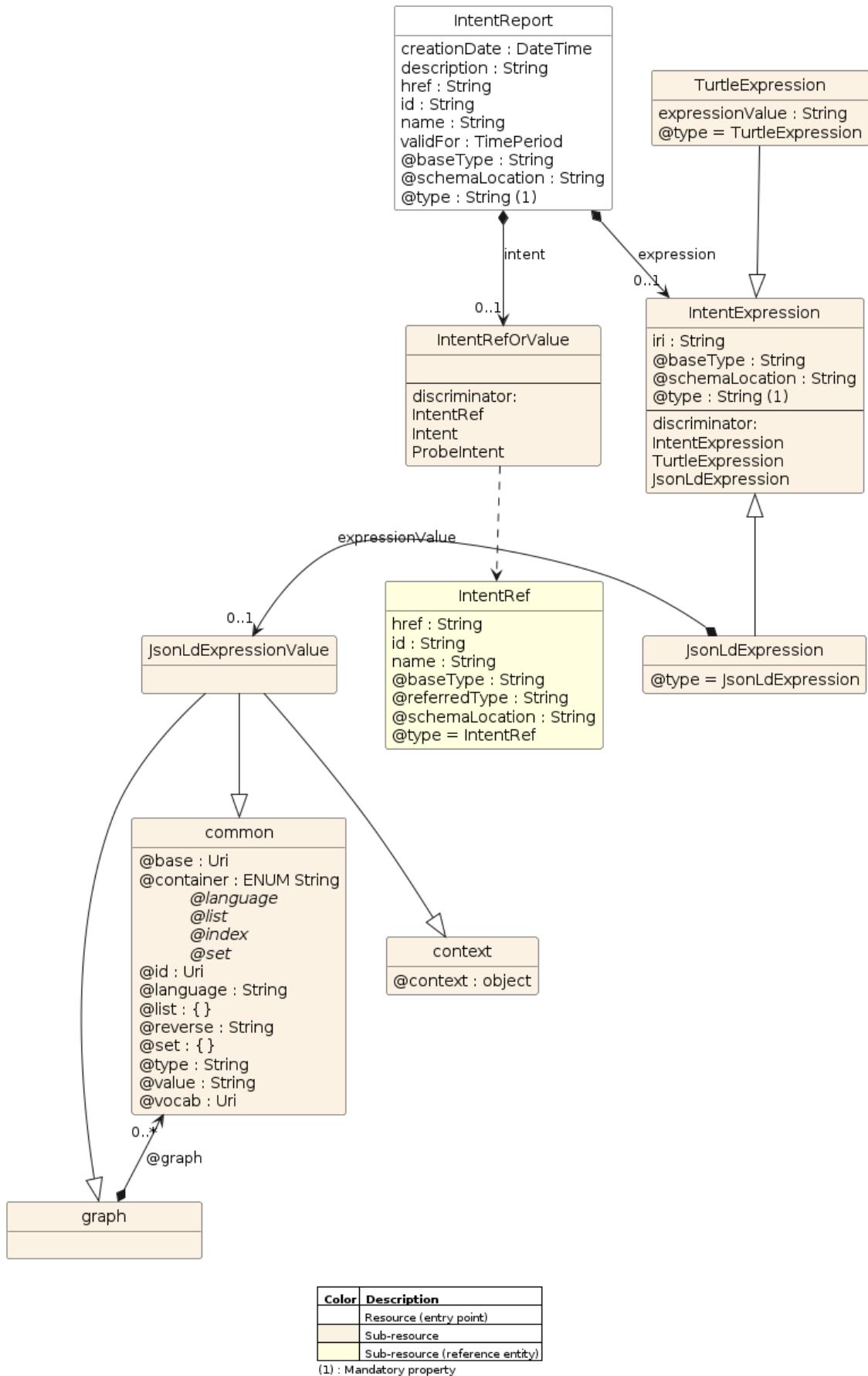


Figure 5 - IntentReport

Field descriptions

IntentReport fields

| | |
|-----------------|---|
| creationDate | A DateTime. Date and time of the creation of this intent report. |
| description | A String. The description of the intent report. |
| expression | An IntentExpression. An Intent expression. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| intent | An IntentRefOrValue. Intent Ref (if Intent already exists) or Value (if Intent be created or its details be presented). |
| name | A String. The name of the intent report. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Attachment sub-resource fields

| | |
|-----------------|--|
| attachmentType | A String. A business characterization of the purpose of the attachment, for example logo, instructionManual, contractCopy. |
| content | A Base64. The actual contents of the attachment object, if embedded, encoded as base64. |
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| mimeType | A String. A technical characterization of the attachment content format using IETF Mime Types. |
| name | A String. The name of the attachment. |
| size | A Quantity. An amount in a given unit. |
| url | A String. Uniform Resource Locator, is a web page address (a subset of URI). |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |

| | |
|-------|--|
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |
|-------|--|

AttachmentRef sub-resource fields

| | |
|-----------------|---|
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| url | A String. Link to the attachment media/content. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

BooleanArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Boolean. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

BooleanCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Boolean. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |

| | |
|-----------------|---|
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Characteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

CharacteristicRelationship sub-resource fields

| | |
|------------------|---|
| id | A String. Unique identifier of the characteristic. |
| relationshipType | A String. The type of relationship. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntityRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntityRelationship sub-resource fields

| | |
|------------------|--|
| associationSpec | An EntityRef. Entity reference schema to be use for all entityRef class. |
| href | A String. |
| id | A String. |
| name | A String. |
| relationshipType | A String. Type of relationship such as migration, substitution, dependency, exclusivity. |
| role | A String. The association role for this entity. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. |

IntegerArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An Integer. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

IntegerCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An Integer. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |

| | |
|-----------------|---|
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Intent sub-resource fields

| | |
|---------------------|---|
| attachment | An AttachmentRefOrValue. Attachments that may be of relevance to this intent, such as picture, document, media. |
| characteristic | A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. |
| context | A String. A string used to give a context to the intent. |
| creationDate | A DateTime. Date and time of the creation of this REST resource. |
| description | A String. The description of the intent. |
| expression | An IntentExpression. An Intent expression. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| intentRelationship | An EntityRelationship. A list of intents related to this intent. |
| intentSpecification | An EntityRef. Entity reference schema to be use for all entityRef class. |
| isBundle | A Boolean. IsBundle determines whether an intent represents a single intent (false), or a bundle of intents(true). |
| lastUpdate | A DateTime. Date and time of the last update of this REST resource. |
| lifecycleStatus | A String. Used to indicate the current lifecycle status of this intent. |
| name | A String. The name of the intent. |
| priority | A String. Can be used by intent owner to prioritize intents in an intent management system. |
| relatedParty | A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity. |
| statusChangeDate | A DateTime. A date time(DateTime). The date that the entity status changed to the current one. |
| validFor | A TimePeriod. A period of time, either as a deadline (endTime only) a startTime only, or both. |
| version | A String. A field that identifies the specific version of an instance of an intent. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |

| | |
|-------|--|
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |
|-------|--|

IntentExpression sub-resource fields

| | |
|-----------------|---|
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

IntentRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

JsonLdExpression sub-resource fields

| | |
|-----------------|---|
| expressionValue | A JsonLdExpressionValue. Json LD expression value schema. |
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

NumberArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |

| | |
|-----------------|---|
| value | A Number. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

NumberCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A Number. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ObjectArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | An object. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ObjectCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |

| | |
|-----------------|---|
| name | A String. Name of the characteristic. |
| value | An object. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRoleRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| partyId | A String. The identifier of the engaged party that is linked to the PartyRole object. |
| partyName | A String. The name of the engaged party that is linked to the PartyRole object. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

RelatedPartyRefOrPartyRoleRef sub-resource fields

| | |
|------------------|---------------------------|
| partyOrPartyRole | A PartyRefOrPartyRoleRef. |
|------------------|---------------------------|

| | |
|-----------------|--|
| role | A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StringArrayCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A String. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StringCharacteristic sub-resource fields

| | |
|----------------------------|--|
| characteristicRelationship | A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;. |
| id | A String. Unique identifier of the characteristic. |
| name | A String. Name of the characteristic. |
| value | A String. Value of the characteristic. |
| valueType | A String. Data type of the value of the characteristic. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

TurtleExpression sub-resource fields

| | |
|-----------------|--|
| expressionValue | A String. Turtle Expression value is the ontology-encoded form of the Intent as Turtle RDF as defined in https://www.w3.org/TR/turtle/ . |
|-----------------|--|

| | |
|-----------------|---|
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

common sub-resource fields

| | |
|------------|---|
| @base | A Uri. Used to set the base IRI against which relative IRIs are resolved. |
| @container | A String. Used to set the default container type for a term. |
| @id | A Uri. Used to uniquely identify things that are being described in the document with IRIs or blank node identifiers. |
| @language | A String. Used to specify the language for a particular string value or the default language of a JSON-LD document. |
| @list | A {}. Used to express an ordered set of data. |
| @reverse | A String. Used to express reverse properties. |
| @set | A {}. Used to express an unordered set of data and to ensure that values are always represented as arrays. |
| @type | A String. Used to set the data type of a node or typed value. |
| @value | A String. Used to specify the data that is associated with a particular property in the graph. |
| @vocab | A Uri. Used to expand properties and values in @type with a common prefix IRI. |

context sub-resource fields

| | |
|----------|---|
| @context | An object. Used to define the short-hand names that are used throughout a JSON-LD document. |
|----------|---|

graph sub-resource fields

| | |
|--------|------------------------------------|
| @graph | A common. Used to express a graph. |
|--------|------------------------------------|

Json representation sample(s)

We provide below a JSON representation as example of the 'IntentReport' resource object.

```
{
  "id": "20021",
  "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20011/intentReport/20021",
  "creationDate": "2023-10-23T00:30:01.00Z",
  "description": "An Intent report example",
```

```
"name": "MyIntent Report",
"expression": {
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-intentReport-1",
    "expressionValue": {
        "@context": {
            "voc": "https://tmforum.org/vocab/intent/v1",
            "icm": "http://tio.models.tmforum.org/tio/v3.4.0/IntentCommonModel/",
            "imo": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
        },
        "@graph": [
            {
                "@id": "_:k0",
                "http://www.w3.org/2006/time#inXSDDateTimeStamp": {
                    "@type": "xsd:dateTime",
                    "@value": "'2023-10-23T00:30:01.00Z'"
                }
            },
            {
                "@id": "_:k1",
                "voc:name": {
                    "@type": "String",
                    "@value": "Intent Report"
                }
            },
            {
                "@id": "_:k2",
                "voc:description": {
                    "@type": "String",
                    "@value": "report related to Intent 20011"
                }
            },
            {
                "@id": "_:k3",
                "icm:target": {
                    "@type": "Intent",
                    "@value": "20011"
                }
            }
        ]
    },
    "@baseType": "Expression",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/JsonLdExpression.schema.json",
    "@type": "JsonLdExpression"
},
"intent": {
    "id": "20011",
    "href": "https://mycsp.com:8080/tmf-api/intentManagement/v5/intent/20011",
    "creationDate": "2023-10-23T00:30:00.00Z",
    "description": "Intent for ordering live broadcast service for an event",
    "validFor": {
        "startDate": "2023-10-23T00:30:00.00Z",
        "endDate": "2024-10-19T23:30:00.00Z"
    },
    "name": "EventLiveBroadcast",
    "lastUpdate": "2023-10-23T00:30:00.00Z",
    "lifecycleStatus": "Created",
    "statusChangeDate": "2023-10-23T00:30:00.00Z",
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
```

```

"context": "Autonomous services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"characteristic": [
    {
        "id": "19997-pn",
        "name": "isTimeConstrained",
        "value": true,
        "valueType": "boolean",
        "@type": "BooleanCharacteristic"
    }
],
"relatedParty": [
    {
        "role": "user",
        "partyOrPartyRole": {
            "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
            "id": "19993",
            "name": "Marcus Aurelius",
            "@type": "PartyRef",
            "@referredType": "Individual"
        },
        "@type": "RelatedPartyRefOrPartyRoleRef"
    }
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm":
                "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
            "cat": "http://www.operator.com/Catalog#",
            "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
            "xsd": "http://www.w3.org/2001/XMLSchema#",
            "t": "http://www.w3.org/2006/time#",
            "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
            "app": "http://www.operator.com/Catalog/StreamingApplication#",
            "geo": "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001": {
            "@type": "icm:Intent",
            "icm:intentOwner": "idan:Salesforce",
            "icm:hasExpectation": {
                "idan:Delivery_service": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "icm:targetDescription": "cat:EventWirelessAccess"
                    }
                },
                "idan:Delivery_app": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:application",
                    "icm:params": {
                        "icm:targetDescription": "cat:StreamingApplication"
                    }
                }
            }
        }
    }
}

```

```
        }
    },
    "idan:Property_service": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "elb:serviceQuality": [
                {
                    "icm:value": "4KUHD"
                }
            ],
            "elb:numberOfParticipants": [
                {
                    "icm:atMost": "200"
                }
            ],
            "elb:areaOfService": [
                {
                    "geo:geographicPoints": [
                        {
                            "geo:longitude": 90,
                            "geo:latitude": 44,
                            "geo:altitude": 84
                        },
                        {
                            "geo:longitude": 84,
                            "geo:latitude": -12,
                            "geo:altitude": 24
                        },
                        {
                            "geo:longitude": 131,
                            "geo:latitude": -36,
                            "geo:altitude": 29
                        },
                        {
                            "geo:longitude": 7,
                            "geo:latitude": 81,
                            "geo:altitude": -42
                        }
                    ]
                }
            ]
        }
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "_:reporting"
    }
}
```

```
        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ],
            "icm:reportingEvent": [
                "icm:StateComplies",
                "icm:StateDegrades"
            ]
        }
    }
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
},
"validFor": {
    "startDateTime": "2023-10-23T00:30:01.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/IntentReport.schema.json",
"@type": "IntentReport"
}
```

IntentSpecification resource

IntentSpecification is a class that offers characteristics to describe a type of intent. Functionally, it acts as a template by which intents may be instantiated.

Resource model

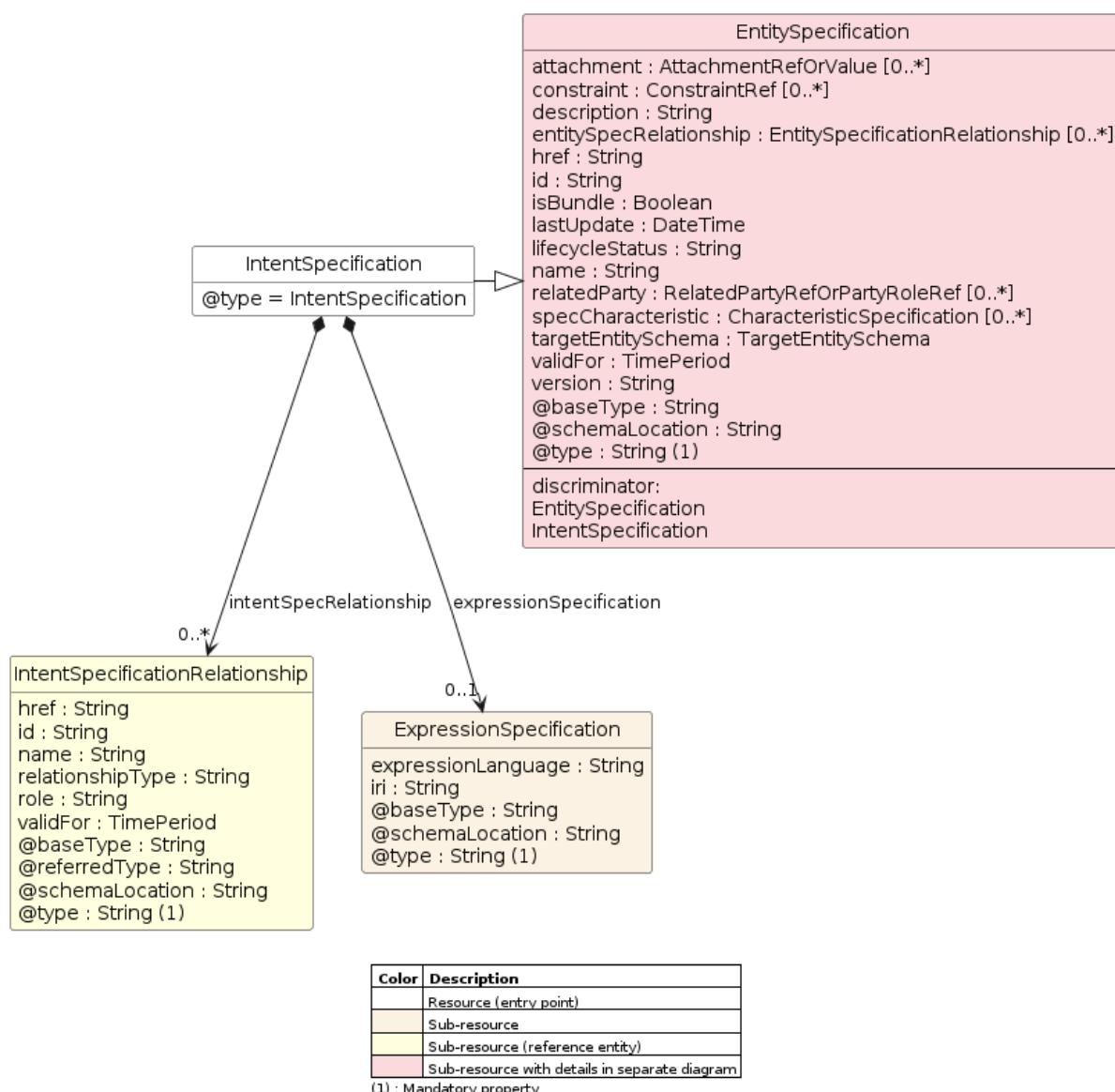


Figure 6 - IntentSpecification

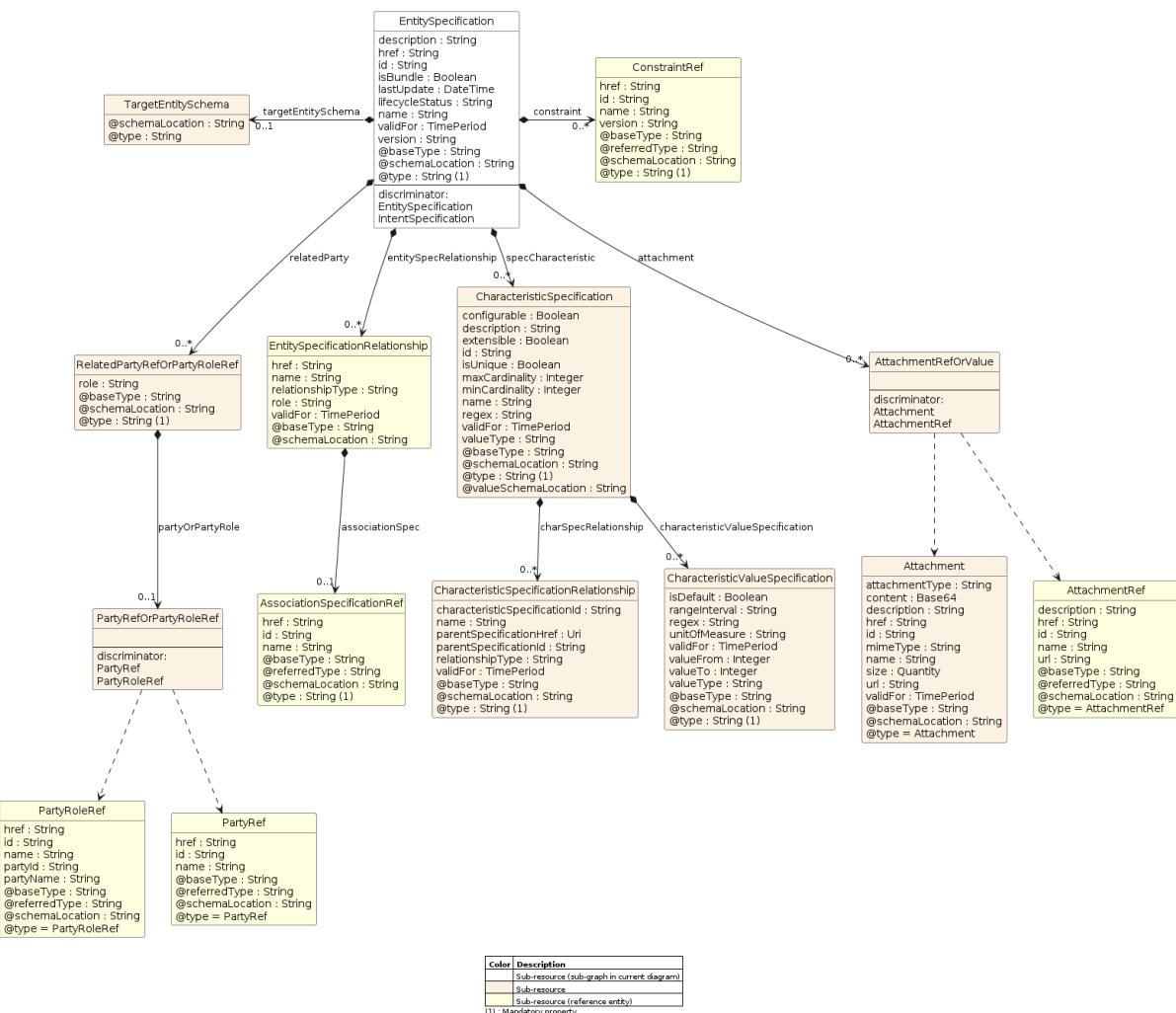


Figure 7 - EntitySpecification

Field descriptions

IntentSpecification fields

| | |
|-------------------------|--|
| attachment | An AttachmentRefOrValue. Attachments that may be of relevance to this specification, such as picture, document, media. |
| constraint | A ConstraintRef. This is a list of constraint references applied to this specification. |
| description | A String. Description of the specification. |
| entitySpecRelationship | An EntitySpecificationRelationship. Relationship to another specification. |
| expressionSpecification | An ExpressionSpecification. Expression Specification is the ontology-encoded form of the Intent. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |

| | |
|------------------------|---|
| intentSpecRelationship | An IntentSpecificationRelationship. A list of intent specifications related to this specification, e.g. substitution, dependency or exclusivity relationship. |
| isBundle | A Boolean. IsBundle determines whether specification represents a single specification (false), or a bundle of specifications (true). |
| lastUpdate | A DateTime. Date and time of the last update of the specification. |
| lifecycleStatus | A String. Used to indicate the current lifecycle status of this catalog item. |
| name | A String. Name given to the specification. |
| relatedParty | A RelatedPartyRefOrPartyRoleRef. Parties who manage or otherwise have an interest in this specification. |
| specCharacteristic | A CharacteristicSpecification. List of characteristics that the entity can take. |
| targetEntitySchema | A TargetEntitySchema. The reference object to the schema and type of target entity which is described by a specification. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateOnly) a startDateTime only, or both. |
| version | A String. Specification version. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

AssociationSpecificationRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Attachment sub-resource fields

| | |
|----------------|--|
| attachmentType | A String. A business characterization of the purpose of the attachment, for example logo, instructionManual, contractCopy. |
|----------------|--|

| | |
|-----------------|--|
| content | A Base64. The actual contents of the attachment object, if embedded, encoded as base64. |
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| mime_type | A String. A technical characterization of the attachment content format using IETF Mime Types. |
| name | A String. The name of the attachment. |
| size | A Quantity. An amount in a given unit. |
| url | A String. Uniform Resource Locator, is a web page address (a subset of URI). |
| valid_for | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

AttachmentRef sub-resource fields

| | |
|-----------------|---|
| description | A String. A narrative text describing the content of the attachment. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| url | A String. Link to the attachment media/content. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

CharacteristicSpecification sub-resource fields

| | |
|----------------------|---|
| charSpecRelationship | A CharacteristicSpecificationRelationship. An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics. |
|----------------------|---|

| | |
|----------------------------------|--|
| characteristicValueSpecification | A CharacteristicValueSpecification. A CharacteristicValueSpecification object is used to define a set of attributes, each of which can be assigned to a corresponding set of attributes in a CharacteristicSpecification object. The values of the attributes in the CharacteristicValueSpecification object describe the values of the attributes that a corresponding Characteristic object can take on. |
| configurable | A Boolean. If true, the Boolean indicates that the target Characteristic is configurable. |
| description | A String. A narrative that explains the CharacteristicSpecification. |
| extensible | A Boolean. An indicator that specifies that the values for the characteristic can be extended by adding new values when instantiating a characteristic for a resource. |
| id | A String. Unique ID for the characteristic. |
| isUnique | A Boolean. Specifies if the value of this characteristic is unique across all entities instantiated from the specification that uses this characteristic. For example, consider a ProductSpecification for a set-top box, with a CharacteristicSpecification cardID. Each set-top box must have a different value for cardID, so this isUnique attribute would be set to true for the characteristic. |
| maxCardinality | An Integer. The maximum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where five is the value for the maxCardinality. |
| minCardinality | An Integer. The minimum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where zero is the value for the minCardinality. |
| name | A String. A word, term, or phrase by which this characteristic specification is known and distinguished from other characteristic specifications. |
| regex | A String. A rule or principle represented in regular expression used to derive the value of a characteristic value. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| valueType | A String. A kind of value that the characteristic can take on, such as numeric, text and so forth. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |
| @valueSchemaLocation | A String. This (optional) field provides a link to the schema describing the value type. |

CharacteristicSpecificationRelationship sub-resource fields

| | |
|-------------------------------|--|
| characteristicSpecificationId | A String. Unique identifier of the characteristic within the specification. |
| name | A String. Name of the target characteristic within the specification. |
| parentSpecificationHref | A Uri. Hyperlink reference to the parent specification containing the target characteristic. |
| parentSpecificationId | A String. Unique identifier of the parent specification containing the target characteristic. |
| relationshipType | A String. Type of relationship such as aggregation, migration, substitution, dependency, exclusivity. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

CharacteristicValueSpecification sub-resource fields

| | |
|-----------------|--|
| isDefault | A Boolean. If true, the Boolean Indicates if the value is the default value for a characteristic. |
| rangeInterval | A String. An indicator that specifies the inclusion or exclusion of the valueFrom and valueTo attributes. If applicable, possible values are "open", "closed", "closedBottom" and "closedTop". |
| regex | A String. A regular expression constraint for given value. |
| unitOfMeasure | A String. A length, surface, volume, dry measure, liquid measure, money, weight, time, and the like. In general, a determinate quantity or magnitude of the kind designated, taken as a standard of comparison for others of the same kind, in assigning to them numerical values, as 1 foot, 1 yard, 1 mile, 1 square foot. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| valueFrom | An Integer. The low range value that a characteristic can take on. |
| valueTo | An Integer. The upper range value that a characteristic can take on. |
| valueType | A String. A kind of value that the characteristic value can take on, such as numeric, text and so forth. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ConstraintRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| version | A String. Constraint version. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntitySpecification sub-resource fields

| | |
|------------------------|---|
| attachment | An AttachmentRefOrValue. Attachments that may be of relevance to this specification, such as picture, document, media. |
| constraint | A ConstraintRef. This is a list of constraint references applied to this specification. |
| description | A String. Description of the specification. |
| entitySpecRelationship | An EntitySpecificationRelationship. Relationship to another specification. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| isBundle | A Boolean. IsBundle determines whether specification represents a single specification (false), or a bundle of specifications (true). |
| lastUpdate | A DateTime. Date and time of the last update of the specification. |
| lifecycleStatus | A String. Used to indicate the current lifecycle status of this catalog item. |
| name | A String. Name given to the specification. |
| relatedParty | A RelatedPartyRefOrPartyRoleRef. Parties who manage or otherwise have an interest in this specification. |
| specCharacteristic | A CharacteristicSpecification. List of characteristics that the entity can take. |
| targetEntitySchema | A TargetEntitySchema. The reference object to the schema and type of target entity which is described by a specification. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| version | A String. Specification version. |
| @baseType | A String. When sub-classing, this defines the super-class. |

| | |
|-----------------|---|
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

EntitySpecificationRelationship sub-resource fields

| | |
|------------------|--|
| associationSpec | An AssociationSpecificationRef. Reference to an AssociationSpecification object. |
| href | A String. |
| name | A String. |
| relationshipType | A String. Type of relationship such as migration, substitution, dependency, exclusivity. |
| role | A String. The association role for this entity specification. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. |
| @schemaLocation | A String. |

ExpressionSpecification sub-resource fields

| | |
|--------------------|---|
| expressionLanguage | A String. The serialized Expression language of the target intent. |
| iri | A String. Internationalized Resource Identifier of the intent Expression. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

IntentSpecificationRelationship sub-resource fields

| | |
|------------------|--|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| relationshipType | A String. Type of relationship such as substitution, dependency, exclusivity. |
| role | A String. The association role for this intent specification. |
| validFor | A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both. |
| @baseType | A String. When sub-classing, this defines the super-class. |

| | |
|-----------------|---|
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

PartyRoleRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| partyId | A String. The identifier of the engaged party that is linked to the PartyRole object. |
| partyName | A String. The name of the engaged party that is linked to the PartyRole object. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

RelatedPartyRefOrPartyRoleRef sub-resource fields

| | |
|------------------|--|
| partyOrPartyRole | A PartyRefOrPartyRoleRef. |
| role | A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'. |

| | |
|-----------------|---|
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

TargetEntitySchema sub-resource fields

| | |
|-----------------|--|
| @schemaLocation | A String. This field provides a link to the schema describing the target entity. |
| @type | A String. Class type of the target entity. |

Json representation sample(s)

We provide below a JSON representation as example of the 'IntentSpecification' resource object.

```
{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
        "https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
    "id": "65537",
    "description": "Intent spec for ordering live broadcast service for an event",
    "lastUpdate": "2023-08-08T08:34:16.785Z",
    "lifecycleStatus": "ACTIVE",
    "validFor": {
        "startDateTime": "2023-04-12T23:20:50.52Z",
        "endDateTime": "2099-04-12T23:20:50.52Z"
    },
    "version": "1.0",
    "relatedParty": [
        {
            "@type": "RelatedPartyRefOrPartyRoleRef",
            "role": "Provider",
            "partyOrPartyRole": {
                "@type": "PartyRoleRef",
                "id": "28657",
                "name": "TechSolutionsPro Ltd",
                "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
                "@referredType": "Partner"
            }
        },
        {
            "name": "EventLiveBroadcastSpec",
            "expressionSpecification": {
                "@type": "ExpressionSpecification",
                "expressionLanguage": "JSON-LD",
                "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagmentOntology/"
            }
        }
    ]
}
```

Notification Resource Models

11 notifications are defined for this API.

Notifications related to Intent:

- Intent Create Event
- Intent Delete Event
- Intent Status Change Event
- Intent Attribute Value Change Event

Notifications related to IntentReport:

- Intent Report Create Event
- Intent Report Delete Event

Notifications related to IntentSpecification:

- Intent Specification Delete Event
- Intent Specification Create Event
- Intent Specification Attribute Value Change Event
- Intent Specification Status Change Event

The notification structure for all notifications in this API follow the pattern depicted by the figure below. A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType). This notification structure owns an event payload structure ("SpecificEventPayload" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).

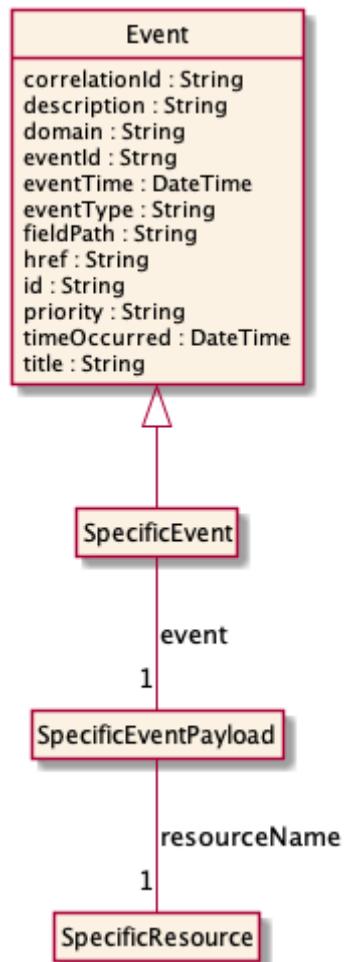


Figure 8 Notification Pattern

Intent Create Event

Sample: IntentCreateEvent

Message example for IntentCreateEvent event

```

Content-Type: application/json

{
  "correlationId": "41b9fa3e-56c0",
  "description": "IntentCreateEvent illustration",
  "domain": "Commercial",
  "eventId": "4f05-8ef6-2fe2b8080d6c",
  "eventTime": "2023-10-23T00:30:00.10Z",
  "eventType": "IntentCreateEvent",
  "priority": "3",
  "timeOccurred": "2023-10-23T00:30:00.00Z",
  "title": "IntentCreateEvent",
  "event": {
    "intent": {
      "id": "20011",
      "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
      "creationDate": "2023-10-23T00:30:00.00Z",
    }
  }
}
  
```

```
        "description": "Intent for ordering live broadcast service for an event",
        "validFor": {
            "startDateTime": "2023-10-23T00:30:00.00Z",
            "endDateTime": "2024-10-19T23:30:00.00Z"
        },
        "name": "EventLiveBroadcast",
        "lastUpdate": "2023-10-23T00:30:00.00Z",
        "lifecycleStatus": "Created",
        "statusChangeDate": "2023-10-23T00:30:00.00Z",
        "version": "1.0",
        "priority": "1",
        "isBundled": false,
        "context": "Autonomous services",
        "intentSpecification": {
            "@type": "IntentSpecificationRef",
            "id": "EventLiveBroadcast_IntentSpec",
            "name": "EventLiveBroadcastIntentSpec",
            "@referredType": "IntentSpecification",
            "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
        },
        "characteristic": [
            {
                "id": "19997-pn",
                "name": "isTimeConstrained",
                "value": true,
                "valueType": "boolean",
                "@type": "BooleanCharacteristic"
            }
        ],
        "relatedParty": [
            {
                "role": "user",
                "partyOrPartyRole": {
                    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/456",
                    "id": "19993",
                    "name": "Marcus Aurelius",
                    "@type": "PartyRef",
                    "@referredType": "Individual"
                },
                "@type": "RelatedPartyRefOrPartyRoleRef"
            }
        ],
        "expression": {
            "@type": "JsonLdExpression",
            "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
            "expressionValue": {
                "@context": {
                    "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                    "cat": "http://www.operator.com/Catalog#",
                    "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
                    "xsd": "http://www.w3.org/2001/XMLSchema#",
                    "t": "http://www.w3.org/2006/time#",
                    "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                    "app": "http://www.operator.com/Catalog/StreamingApplication#",
                    "geo": "https://tmforum.org/2020/07/geographicPoint#"
                }
            }
        }
    }
}
```

```
"idan:EventLiveBroadcast000001": {
    "@type": "icm:Intent",
    "icm:intentOwner": "idan:Salesforce",
    "icm:hasExpectation": {
        "idan:Delivery_service": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "icm:targetDescription": "
cat:EventWirelessAccess"
            }
        },
        "idan:Delivery_app": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "icm:targetDescription": "
cat:StreamingApplication"
            }
        },
        "idan:Property_service": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "elb:serviceQuality": [
                    {
                        "icm:value": "4KUHD"
                    }
                ],
                "elb:numberOfParticipants": [
                    {
                        "icm:atMost": "200"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ],
                "idan:Property_app": {

```

```
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        },
        "idan:Reporting": {
            "@type": "icm:ReportingExpectation",
            "icm:target": "idan:EventLiveBroadcast",
            "icm:params": {
                "icm:reportingInterval": [
                    {
                        "t:Duration": [
                            {
                                "t:numbericDuration": 10,
                                "t:temporalUnit": "unitMinute"
                            }
                        ]
                    }
                ],
                "icm:reportingEvent": [
                    "icm:StateComplies",
                    "icm:StateDegrades"
                ]
            }
        }
    },
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
    "@type": "Intent"
},
"reportingSystem": {
    "id": "241",
    "name": "APP-846",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentCreateEvent"
}
```

Sample: ProbeIntentCreateEvent

Message example for (Probe)IntentCreateEvent event

```
Content-Type: application/json

{
    "correlationId": "494269",
    "description": "IntentCreateEvent illustration",
    "domain": "Commercial",
    "eventId": "494383",
    "eventTime": "2024-04-30T15:40:47.000Z",
    "eventType": "IntentCreateEvent",
    "priority": "3",
    "timeOcurred": "2024-04-30T15:40:47.000Z",
    "title": "IntentCreateEvent",
    "event": {
        "intent": {
            "id": "20071",
            "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
            "description": "A probe intent resource",
            "name": "probeIntentExample",
            "lifecycleStatus": "Active",
            "version": "1.0",
            "expression": {
                "@type": "JsonLdExpression",
                "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
                "expressionValue": {
                    "@context": {
                        "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                        "cat": "http://www.operator.com/Catalog#",
                        "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
                        "xsd": "http://www.w3.org/2001/XMLSchema#",
                        "t": "http://www.w3.org/2006/time#",
                        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                        "app": "http://www.operator.com/Catalog/StreamingApplication#",
                        "geo": "https://tmforum.org/2020/07/geographicPoint#"
                    },
                    "idan:EventLiveBroadcast000001": {
                        "@type": "icm:Intent",
                        "icm:intentOwner": "idan:Salesforce",
                        "icm:hasExpectation": {
                            "idan:Delivery_service": {
                                "@type": "icm:DeliveryExpectation",
                                "icm:target": "_:service",
                                "icm:params": {
                                    "icm:targetDescription": "cat:EventWirelessAccess"
                                }
                            }
                        },
                        "idan:Delivery_app": {
                            "@type": "icm:DeliveryExpectation",
                            "icm:target": "_:application",
                            "icm:params": {
                                "icm:targetDescription": "cat:StreamingApplication"
                            }
                        }
                    }
                }
            }
        }
    }
}
```

```
        }
    },
    "idan:Property_service": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "elb:serviceQuality": [
                {
                    "icm:value": "4KUHD"
                }
            ],
            "elb:numberOfParticipants": [
                {
                    "icm:atMost": "200"
                }
            ],
            "elb:areaOfService": [
                {
                    "geo:geographicPoints": [
                        {
                            "geo:longitude": 90,
                            "geo:latitude": 44,
                            "geo:altitude": 84
                        },
                        {
                            "geo:longitude": 84,
                            "geo:latitude": -12,
                            "geo:altitude": 24
                        },
                        {
                            "geo:longitude": 131,
                            "geo:latitude": -36,
                            "geo:altitude": 29
                        },
                        {
                            "geo:longitude": 7,
                            "geo:latitude": 81,
                            "geo:altitude": -42
                        }
                    ]
                }
            ]
        }
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "_:reporting"
    }
}
```

```
        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ],
            "icm:reportingEvent": [
                "icm:StateComplies",
                "icm:StateDegrades"
            ]
        }
    },
    "validFor": {
        "endDateTime": "2026-04-30T15:40:47.000Z",
        "startDateTime": "2024-04-30T15:40:47.000Z"
    },
    "isBundle": false,
    "priority": "1",
    "context": "Broadband services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "lastUpdate": "2024-04-30T15:40:47.000Z",
    "@baseType": "Intent",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
        "@type": "ProbeIntent"
    }
},
"reportingSystem": {
    "id": "457013",
    "name": "APP-457013",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "457021",
    "name": "APP-457021",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentCreateEvent"
}
```

Intent Delete Event

Sample: IntentDeleteEvent

Message example for IntentDeleteEvent event

```
Content-Type: application/json

{
    "correlationId": "8a50c213-2b13",
    "description": "IntentDeleteEvent illustration",
    "domain": "Commercial",
    "eventId": "4776-b204-ab88b6591aa2",
    "eventTime": "2023-10-23T00:30:03.00Z",
    "eventType": "IntentDeleteEvent",
    "priority": "1",
    "timeOccurred": "2023-10-23T00:30:03.00Z",
    "title": "IntentDeleteEvent",
    "event": {
        "intent": {
            "id": "20011",
            "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
            "@type": "Intent"
        }
    },
    "reportingSystem": {
        "id": "241",
        "name": "APP-846",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "source": {
        "id": "503",
        "name": "APP-130",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "@baseType": "Event",
    "@type": "IntentDeleteEvent"
}
```

Sample: ProbeIntentDeleteEvent

Message example for (Probe)IntentDeleteEvent event

```
Content-Type: application/json

{
    "correlationId": "494539",
    "description": "IntentDeleteEvent illustration",
    "domain": "Commercial",
    "eventId": "494647",
    "eventTime": "2024-04-30T15:50:00.000Z",
    "eventType": "IntentDeleteEvent",
    "priority": "1",
    "timeOccurred": "2024-04-30T15:50:00.000Z",
    "title": "IntentDeleteEvent",
```

```

"event": {
    "intent": {
        "id": "20071",
        "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20071",
        "@type": "ProbeIntent"
    }
},
"reportingSystem": {
    "id": "457739",
    "name": "APP-457739",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "458053",
    "name": "APP-458053",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentDeleteEvent"
}
}

```

Intent Status Change Event

Sample: IntentStatusChangeEvent

Message example for IntentStatusChangeEvent event

```

Content-Type: application/json

{
    "correlationId": "73c5335d-b26a",
    "description": "IntentStatusChangeEvent illustration",
    "domain": "Commercial",
    "eventId": "44a9-a94b-6c30ce44ee26",
    "eventTime": "2023-10-23T00:30:02.00Z",
    "eventType": "IntentStatusChangeEvent",
    "priority": "3",
    "timeOcurred": "2023-10-23T00:30:02.00Z",
    "title": "IntentStatusChangeEvent",
    "event": {
        "intent": {
            "id": "20011",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20011",
            "creationDate": "2023-10-23T00:30:00.00Z",
            "description": "Intent for ordering live broadcast service for an
event",
            "validFor": {
                "startDateTime": "2023-10-23T00:30:00.00Z",
                "endDateTime": "2024-10-19T23:30:00.00Z"
            },
            "name": "EventLiveBroadcast",
            "lastUpdate": "2023-10-23T00:30:02.00Z",
            "lifecycleStatus": "Settled",
            "statusChangeDate": "2023-10-23T00:30:02.00Z",
            "version": "1.0",
        }
    }
}

```

```

    "priority": "1",
    "isBundled": false,
    "context": "Autonomous services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href":
    "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "characteristic": [
        {
            "id": "19997-pn",
            "name": "isTimeConstrained",
            "value": true,
            "valueType": "boolean",
            "@type": "BooleanCharacteristic"
        }
    ],
    "relatedParty": [
        {
            "role": "user",
            "partyOrPartyRole": {
                "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
                "id": "19993",
                "name": "Marcus Aurelius",
                "@type": "PartyRef",
                "@referredType": "Individual"
            },
            "@type": "RelatedPartyRefOrPartyRoleRef"
        }
    ],
    "expression": {
        "@type": "JsonLdExpression",
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
        "expressionValue": {
            "@context": {
                "icm":
                "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                "cat": "http://www.operator.com/Catalog#",
                "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
                "xsd": "http://www.w3.org/2001/XMLSchema#",
                "t": "http://www.w3.org/2006/time#",
                "elb":
            }
        }
    }
],
"cat:EventWirelessAccess"
}
}

```

```
        },
        "idan:Delivery_app": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "icm:targetDescription": "
cat:StreamingApplication"
            }
        },
        "idan:Property_service": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "elb:serviceQuality": [
                    {
                        "icm:value": "4KUHD"
                    }
                ],
                "elb:numberOfParticipants": [
                    {
                        "icm:atMost": "200"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ]
            }
        },
        "idan:Property_app": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "app:appType": [
                    {
                        "icm:value": "AWS MediaLive"
                    },
                    {
                        "icm:value": "Facebook Live"
                    }
                ]
            }
        }
    }
}
```

```

                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
}
},
"reportingSystem": {
    "id": "241",
    "name": "APP-846",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentStatusChangeEvent"
}
}

```

Sample: ProbeIntentStatusChangeEvent

Message example for (Probe)IntentStatusChangeEvent event

```

Content-Type: application/json

{
    "correlationId": "494731",
    "description": "IntentStatusChangeEvent illustration",
    "domain": "Commercial",
}

```

```

"eventId": "494849",
"eventTime": "2024-04-30T15:49:00.000Z",
"eventType": "IntentStatusChangeEvent",
"priority": "1",
"timeOccurred": "2024-04-30T15:49:00.000Z",
"title": "IntentStatusChangeEvent",
"event": {
    "intent": {
        "id": "20071",
        "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20071",
        "name": "probeIntentExample",
        "lifecycleStatus": "Active",
        "@baseType": "Intent",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
        "@type": "ProbeIntent"
    }
},
"reportingSystem": {
    "id": "458197",
    "name": "APP-458197",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "458363",
    "name": "APP-458363",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentStatusChangeEvent"
}

```

Intent Attribute Value Change Event

Sample: IntentAttributeValueChangeEvent

Message example for IntentAttributeValueEvent event

```

Content-Type: application/json

{
    "correlationId": "73c5335d-b26a",
    "description": "IntentAttributeValueChangeEvent illustration",
    "domain": "Commercial",
    "eventId": "44a9-a94b-6c30ce44ee26",
    "eventTime": "2023-10-23T00:30:02.00Z",
    "eventType": "IntentAttributeValueChangeEvent",
    "priority": "3",
    "timeOccurred": "2023-10-23T00:30:02.00Z",
    "title": "IntentAttributeValueChangeEvent",
    "event": {
        "intent": {
            "id": "20011",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20011",
            "creationDate": "2023-10-23T00:30:00.00Z",

```

```

"description": "Intent for ordering live broadcast service for an
event",
"validFor": {
    "startDateTime": "2023-10-23T00:30:00.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
},
"name": "EventLiveBroadcast",
"lastUpdate": "2023-10-23T00:30:02.00Z",
"lifecycleStatus": "Active",
"statusChangeDate": "2023-10-23T00:30:02.00Z",
"version": "1.0",
"priority": "1",
"isBundled": false,
"context": "Autonomous services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href":
"/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"characteristic": [
    {
        "id": "19997-pn",
        "name": "isTimeConstrained",
        "value": true,
        "valueType": "boolean",
        "@type": "BooleanCharacteristic"
    }
],
"relatedParty": [
    {
        "role": "user",
        "partyOrPartyRole": {
            "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
            "id": "19993",
            "name": "Marcus Aurelius",
            "@type": "PartyRef",
            "@referredType": "Individual"
        },
        "@type": "RelatedPartyRefOrPartyRoleRef"
    }
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm":
"http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
            "cat": "http://www.operator.com/Catalog#",
            "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
            "xsd": "http://www.w3.org/2001/XMLSchema#",
            "t": "http://www.w3.org/2006/time#",
            "elb":
"http://www.operator.com/Catalog/EventWirelessAccess#",
            "app":
"http://www.operator.com/Catalog/StreamingApplication#",
            "geo": "https://tmforum.org/2020/07/geographicPoint#"
        }
    }
}

```

```
"idan:EventLiveBroadcast000001": {
    "@type": "icm:Intent",
    "icm:intentOwner": "idan:Salesforce",
    "icm:hasExpectation": {
        "idan:Delivery_service": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "icm:targetDescription": "
cat:EventWirelessAccess"
            }
        },
        "idan:Delivery_app": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "icm:targetDescription": "
cat:StreamingApplication"
            }
        },
        "idan:Property_service": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "elb:serviceQuality": [
                    {
                        "icm:value": "4KUHD"
                    }
                ],
                "elb:numberOfParticipants": [
                    {
                        "icm:atMost": "200"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ],
                "idan:Property_app": {

```

```
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        },
        "idan:Reporting": {
            "@type": "icm:ReportingExpectation",
            "icm:target": "idan:EventLiveBroadcast",
            "icm:params": {
                "icm:reportingInterval": [
                    {
                        "t:Duration": [
                            {
                                "t:numbericDuration": 10,
                                "t:temporalUnit": "unitMinute"
                            }
                        ]
                    }
                ],
                "icm:reportingEvent": [
                    "icm:StateComplies",
                    "icm:StateDegrades"
                ]
            }
        }
    },
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
    "@type": "Intent"
},
"reportingSystem": {
    "id": "241",
    "name": "APP-846",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentAttributeValueChangeEvent"
}
```

Sample: ProbeIntentAttributeValueChangeEvent

Message example for (Probe)IntentAttributeValueEvent event

```
Content-Type: application/json

{
    "correlationId": "457003",
    "description": "IntentAttributeValueChangeEvent (ProbeIntent) illustration",
    "domain": "Commercial",
    "eventId": "457001",
    "eventTime": "2024-04-30T15:45:47.000Z",
    "eventType": "IntentAttributeValueChangeEvent",
    "priority": "1",
    "timeOcurred": "2024-04-30T15:45:47.000Z",
    "title": "IntentAttributeValueChangeEvent",
    "event": {
        "intent": {
            "id": "20071",
            "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
            "description": "A probe intent resource",
            "name": "probeIntentExample",
            "lifecycleStatus": "Active",
            "version": "1.0",
            "expression": {
                "@type": "JsonLdExpression",
                "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
                "expressionValue": {
                    "@context": {
                        "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                        "cat": "http://www.operator.com/Catalog#",
                        "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
                        "xsd": "http://www.w3.org/2001/XMLSchema#",
                        "t": "http://www.w3.org/2006/time#",
                        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                        "app": "http://www.operator.com/Catalog/StreamingApplication#",
                        "geo": "https://tmforum.org/2020/07/geographicPoint#"
                    },
                    "idan:EventLiveBroadcast000001": {
                        "@type": "icm:Intent",
                        "icm:intentOwner": "idan:Salesforce",
                        "icm:hasExpectation": {
                            "idan:Delivery_service": {
                                "@type": "icm:DeliveryExpectation",
                                "icm:target": "_:service",
                                "icm:params": {
                                    "icm:targetDescription": "cat:EventWirelessAccess"
                                }
                            }
                        },
                        "idan:Delivery_app": {
                            "@type": "icm:DeliveryExpectation",
                            "icm:target": "_:application",
                            "icm:params": {
                                "icm:targetDescription": "cat:StreamingApplication"
                            }
                        }
                    }
                }
            }
        }
    }
}
```

```
        }
    },
    "idan:Property_service": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "elb:serviceQuality": [
                {
                    "icm:value": "4KUHD"
                }
            ],
            "elb:numberOfParticipants": [
                {
                    "icm:atMost": "200"
                }
            ],
            "elb:areaOfService": [
                {
                    "geo:geographicPoints": [
                        {
                            "geo:longitude": 90,
                            "geo:latitude": 44,
                            "geo:altitude": 84
                        },
                        {
                            "geo:longitude": 84,
                            "geo:latitude": -12,
                            "geo:altitude": 24
                        },
                        {
                            "geo:longitude": 131,
                            "geo:latitude": -36,
                            "geo:altitude": 29
                        },
                        {
                            "geo:longitude": 7,
                            "geo:latitude": 81,
                            "geo:altitude": -42
                        }
                    ]
                }
            ]
        }
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "_:reporting"
    }
}
```

```

        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ],
            "icm:reportingEvent": [
                "icm:StateComplies",
                "icm:StateDegrades"
            ]
        }
    }
},
"validFor": {
    "endDateTime": "2026-04-30T15:40:47.000Z",
    "startDateTime": "2024-04-30T15:40:47.000Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2024-04-30T15:40:47.000Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
},
"reportingSystem": {
    "id": "22051",
    "name": "APP-22051",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "22063",
    "name": "APP-22063",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentAttributeValueChangeEvent"
}

```

Intent Report Create Event

Message example for IntentReportCreateEvent event

```
Content-Type: application/json

{
    "correlationId": "41b9fa3e-56c0",
    "description": "IntentReportCreateEvent illustration",
    "domain": "Commercial",
    "eventId": "4f05-8ef6-2fe2b8080d6c",
    "eventTime": "2023-10-23T00:30:01.00Z",
    "eventType": "IntentReportCreateEvent",
    "priority": "3",
    "timeOcurred": "2023-10-23T00:30:01.00Z",
    "title": "IntentReportCreateEvent",
    "event": {
        "intentReport": {
            "id": "20021",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20011/intentReport/20021",
            "creationDate": "2023-10-23T00:30:01.00Z",
            "description": "An Intent report example",
            "name": "MyIntent Report",
            "expression": {
                "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-intentReport-
1",
                "expressionValue": {
                    "@context": {
                        "voc": "https://tmforum.org/vocab/intent/v1",
                        "icm": "http://tio.models.tmforum.org/tio/v3.4.0/IntentCommonModel/",
                        "imo": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagmentOntology/"
                    },
                    "@graph": [
                        {
                            "@id": "_:k0",
                            "http://www.w3.org/2006/time#inXSDDateTimeStamp": {
                                "@type": "xsd:dateTime",
                                "@value": "'2023-10-23T00:30:01.00Z'"
                            }
                        },
                        {
                            "@id": "_:k1",
                            "voc:name": {
                                "@type": "String",
                                "@value": "Intent Report"
                            }
                        },
                        {
                            "@id": "_:k2",
                            "voc:description": {
                                "@type": "String",
                                "@value": "report related to Intent 20011"
                            }
                        },
                        {
                            "@id": "_:k3",
                            "icm:target": {
                                "@type": "Intent",
                                "voc:label": "Intent Report"
                            }
                        }
                    ]
                }
            }
        }
    }
}
```

```

        "@value": "20011"
    }
}
]
},
"@baseType": "Expression",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/JsonLdExpression.schema.json",
"@type": "JsonLdExpression"
},
"intent": {
    "id": "20011",
    "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20011",
    "name": "EventLiveBroadcast",
    "@referredType": "Intent",
    "@type": "IntentRef"
},
"validFor": {
    "startDateTime": "2023-10-23T00:30:01.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/IntentReport.schema.json",
"@type": "IntentReport"
}
},
"reportingSystem": {
    "id": "241",
    "name": "APP-846",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentReportCreateEvent"
}
}
```

Intent Report Delete Event

Message example for IntentReportDeleteEvent event

```

Content-Type: application/json

{
    "correlationId": "8a50c213-2b13",
    "description": "IntentReportDeleteEvent illustration",
    "domain": "Commercial",
    "eventId": "4776-b204-ab88b6591aa2",
    "eventTime": "2023-10-23T00:30:03.00Z",
    "eventType": "IntentReportDeleteEvent",
    "priority": "1",
    "timeOcurred": "2023-10-23T00:30:03.00Z",
    "title": "IntentReportDeleteEvent",
    "event": {

```

```

    "intentReport": {
        "id": "20029",
        "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/20011/intentReport/20029",
        "@type": "IntentReport"
    },
    "reportingSystem": {
        "id": "241",
        "name": "APP-846",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "source": {
        "id": "503",
        "name": "APP-130",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "@baseType": "Event",
    "@type": "IntentReportDeleteEvent"
}

```

Intent Specification Delete Event

Message example for IntentSpecificationDeleteEvent event

```

Content-Type: application/json

{
    "correlationId": "8a50c213-2b13",
    "description": "IntentSpecificationDeleteEvent illustration",
    "domain": "Commercial",
    "eventId": "4776-b204-ab88b6591aa2",
    "eventTime": "2023-03-07T08:03:31.774Z",
    "eventType": "IntentSpecificationDeleteEvent",
    "priority": "1",
    "timeOccurred": "2023-03-07T08:03:29.602Z",
    "title": "IntentSpecificationDeleteEvent",
    "event": {
        "intentSpecification": {
            "id": "65537",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/65537",
            "@type": "IntentSpecification"
        }
    },
    "reportingSystem": {
        "id": "241",
        "name": "APP-846",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "source": {
        "id": "503",
        "name": "APP-130",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "@baseType": "Event",
}

```

```
    "@type": "IntentSpecificationDeleteEvent"
}
```

Intent Specification Create Event

Message example for IntentSpecificationCreateEvent event

```
Content-Type: application/json

{
    "correlationId": "41b9fa3e-56c0",
    "description": "IntentSpecificationCreateEvent illustration",
    "domain": "Commercial",
    "eventId": "4f05-8ef6-2fe2b8080d6c",
    "eventTime": "2023-08-08T08:34:17.001Z",
    "eventType": "IntentSpecificationCreateEvent",
    "priority": "3",
    "timeOccurred": "2023-08-08T08:34:17.001Z",
    "title": "IntentSpecificationCreateEvent",
    "event": {
        "intentSpecification": {
            "@type": "IntentSpecification",
            "@baseType": "EntitySpecification",
            "@schemaLocation":
                "https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/65537",
            "id": "65537",
            "description": "Intent spec for ordering live broadcast service for an
event",
            "lastUpdate": "2023-08-08T08:34:16.785Z",
            "lifecycleStatus": "ACTIVE",
            "validFor": {
                "startDateTime": "2023-04-12T23:20:50.52Z",
                "endDateTime": "2099-04-12T23:20:50.52Z"
            },
            "version": "1.0",
            "relatedParty": [
                {
                    "@type": "RelatedPartyRefOrPartyRoleRef",
                    "role": "Provider",
                    "partyOrPartyRole": {
                        "@type": "PartyRoleRef",
                        "id": "28657",
                        "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
                        "@referredType": "Partner"
                    }
                ],
                "name": "EventLiveBroadcastSpec",
                "expressionSpecification": {
                    "@type": "ExpressionSpecification",
                    "expressionLanguage": "JSON-LD",
                    "iri": "http://tio.models.tmforum.org/tio/v2.0.0/IntentCommonModel/"
                }
            ],
            "reportingSystem": {
                "id": "241",
                "name": "APP-846",
                "@type": "ReportingResource",
            }
        }
    }
}
```

```

    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentSpecificationCreateEvent"
}

```

Intent Specification Attribute Value Change Event

Message example for IntentSpecificationAttributeValueChangeEvent event

```

Content-Type: application/json

{
    "correlationId": "73c5335d-b26a",
    "description": "IntentSpecificationAttributeValueChangeEvent illustration",
    "domain": "Commercial",
    "eventId": "44a9-a94b-6c30ce44ee26",
    "eventTime": "2023-08-08T08:34:27.785Z",
    "eventType": "IntentSpecificationAttributeValueChangeEvent",
    "priority": "3",
    "timeOcurred": "2023-03-07T08:03:30.432Z",
    "title": "IntentSpecificationAttributeValueChangeEvent",
    "event": {
        "intentSpecification": {
            "@type": "IntentSpecification",
            "@baseType": "EntitySpecification",
            "@schemaLocation":
                "https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/65537",
            "id": "65537",
            "description": "Intent spec for ordering live broadcast service for an
event",
            "lastUpdate": "2023-08-08T08:34:26.785Z",
            "lifecycleStatus": "ACTIVE",
            "validFor": {
                "startDateTime": "2023-04-12T23:20:50.52Z",
                "endDateTime": "2099-04-12T23:20:50.52Z"
            },
            "version": "1.0",
            "relatedParty": [
                {
                    "@type": "RelatedPartyRefOrPartyRoleRef",
                    "role": "Provider",
                    "partyOrPartyRole": {
                        "@type": "PartyRoleRef",
                        "id": "28657",
                        "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
                        "@referredType": "Partner"
                    }
                ],
                "name": "EventLiveBroadcastSpec",
                "expressionSpecification": {
                    "@type": "ExpressionSpecification"
                }
            ]
        }
    }
}

```

```

        "expressionLanguage": "JSON-LD",
        "iri": "http://tio.models.tmforum.org/tio/v2.0.0/IntentCommonModel/"
    }
}
},
"reportingSystem": {
    "id": "241",
    "name": "APP-846",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentSpecificationAttributeValueChangeEvent"
}
}

```

Intent Specification Status Change Event

Message example for IntentSpecificationStatusChangeEvent event

```

Content-Type: application/json

{
    "correlationId": "73c5335d-b26a",
    "description": "Intent-SpecificationStatusChangeEvent illustration",
    "domain": "Commercial",
    "eventId": "44a9-a94b-6c30ce44ee26",
    "eventTime": "2023-03-07T08:03:31.774Z",
    "eventType": "IntentSpecificationStatusChangeEvent",
    "priority": "3",
    "timeOccurred": "2023-03-07T08:03:30.432Z",
    "title": "IntentSpecificationStatusChangeEvent",
    "event": {
        "intentSpecification": {
            "@type": "IntentSpecification",
            "@baseType": "EntitySpecification",
            "@schemaLocation":
                "https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
            "href": "https://mycsp.com:8080//tmf-
api/intentManagement/v5/intent/65537",
            "id": "65537",
            "description": "Intent spec for ordering live broadcast service for an
event",
            "lastUpdate": "2023-08-08T08:34:26.785Z",
            "lifecycleStatus": "ACTIVE",
            "validFor": {
                "startDateTime": "2023-04-12T23:20:50.52Z",
                "endDateTime": "2099-04-12T23:20:50.52Z"
            },
            "version": "1.0",
            "relatedParty": [
                {
                    "@type": "RelatedPartyRefOrPartyRoleRef",
                    "role": "Provider",
                    "partyOrPartyRole": {
                        "@type": "PartyRoleRef",

```

```
        "id": "28657",
        "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
        "@referredType": "Partner"
    }
},
{
    "name": "EventLiveBroadcastSpec",
    "expressionSpecification": {
        "@type": "ExpressionSpecification",
        "expressionLanguage": "JSON-LD",
        "iri": "http://tio.models.tmforum.org/tio/v2.0.0/IntentCommonModel/"
    }
}
},
"reportingSystem": {
    "id": "241",
    "name": "APP-846",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "503",
    "name": "APP-130",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "IntentSpecificationStatusChangeEvent"
}
```

API OPERATIONS

Remember the following Uniform Contract:

| Operation on Entities | Uniform API Operation | Description |
|--------------------------------|-----------------------|--|
| Query Entities | GET Resource | GET must be used to retrieve a representation of a resource. |
| Create Entity | POST Resource | POST must be used to create a new resource |
| Partial Update of an Entity | PATCH Resource | PATCH must be used to partially update a resource |
| Remove an Entity | DELETE Resource | DELETE must be used to remove a resource |
| Execute an Action on an Entity | POST on TASK Resource | POST must be used to execute Task Resources |
| Other Request Methods | POST on TASK Resource | GET and POST must not be used to tunnel other request methods. |

Filtering and attribute selection rules are described in the TMF REST Design Guidelines.

Notifications are also described in a subsequent section.

It should be noted that extended resources inherit the same operations and notifications of base resources.

Operations on Intent

List or find IntentReport objects

`GET /intent/{intentId}/intentReport?fields=...`

Description

This operation list Intent entities. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving multiple Intent objects

Request

```
GET /intent/{intentId}/intentReport?lifecycleStatus=Active
Content-Type: application/json
```

Response

```
200
[
{
  "id": "20011",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
  "creationDate": "2023-10-23T00:30:00.00Z",
  "description": "Intent for ordering live broadcast service for an event",
  "validFor": {
    "startDateTime": "2023-10-23T00:30:00.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
  },
  "name": "EventLiveBroadcast",
  "lastUpdate": "2023-10-23T00:30:00.00Z",
  "lifecycleStatus": "Active",
  "statusChangeDate": "2023-10-23T00:30:00.00Z",
  "version": "1.0",
  "priority": "1",
  "isBundled": false,
  "context": "Autonomous services",
  "intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
  },
  "characteristic": [
    {
      "id": "19997-pn",
      "name": "isTimeConstrained",
      "value": true,
      "valueType": "boolean",
      "@type": "BooleanCharacteristic"
    }
  ],
  "relatedParty": [
    {
      "role": "user",
      "partyOrPartyRole": {
        "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
        "id": "19993",
        "name": "Marcus Aurelius",
        "@type": "PartyRef",
        "@referredType": "Individual"
      },
      "@type": "RelatedPartyRefOrPartyRoleRef"
    }
  ],
  "expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
      "@context": {
        "icm":
        "http://tio.models.tmforum.org/tio/v3.4.0/IntentCommonModel/",
        "imo":
        "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/",
        "log":
        "http://tio.models.tmforum.org/tio/v3.4.0/LogicalOperators/",
        "cat": "http://www.operator.com/Catalog#",
      }
    }
  }
}
```

```
        "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
        "xsd": "http://www.w3.org/2001/XMLSchema#",
        "t": "http://www.w3.org/2006/time#",
        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
        "app": "http://www.operator.com/Catalog/StreamingApplication#",
        "geo": "https://tmforum.org/2020/07/geographicPoint#"
    },
    "idan:EventLiveBroadcast000001": {
        "@type": "icm:Intent",
        "icm:intentOwner": "idan:Salesforce",
        "icm:hasExpectation": {
            "idan:Delivery_service": {
                "@type": "icm:DeliveryExpectation",
                "icm:target": "_:service",
                "icm:params": {
                    "icm:targetDescription": "cat:EventWirelessAccess"
                }
            },
            "idan:Delivery_app": {
                "@type": "icm:DeliveryExpectation",
                "icm:target": "_:application",
                "icm:params": {
                    "icm:targetDescription": "cat:StreamingApplication"
                }
            },
            "idan:Property_service": {
                "@type": "icm:PropertyExpectation",
                "icm:target": "_:service",
                "icm:params": {
                    "elb:serviceQuality": [
                        {
                            "icm:value": "4KUHD"
                        }
                    ],
                    "elb:numberOfParticipants": [
                        {
                            "icm:atMost": "200"
                        }
                    ],
                    "elb:areaOfService": [
                        {
                            "geo:geographicPoints": [
                                {
                                    "geo:longitude": 90,
                                    "geo:latitude": 44,
                                    "geo:altitude": 84
                                },
                                {
                                    "geo:longitude": 84,
                                    "geo:latitude": -12,
                                    "geo:altitude": 24
                                },
                                {
                                    "geo:longitude": 131,
                                    "geo:latitude": -36,
                                    "geo:altitude": 29
                                },
                                {
                                    "geo:longitude": 7,
                                    "geo:latitude": 81,
                                    "geo:altitude": -42
                                }
                            ]
                        }
                    ]
                }
            }
        }
    }
}
```

```

                ]
            }
        ]
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ],
            "icm:reportingEvent": [
                "icm:StateComplies",
                "icm:StateDegrades"
            ]
        }
    }
},
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Intent.schema.json",
"@type": "Intent"
},
{
    "id": "20023",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20023",
    "creationDate": "2022-07-04T15:40:47.797Z",
    "description": "An intent resource",
    "lastUpdate": "2022-07-04T15:40:47.797Z",
    "lifecycleStatus": "Active",
    "name": "Increase network capacity Intent",
    "statusChangeDate": "2022-07-04T15:40:47.797Z",
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
    "context": "intent-based networks",
}

```

```

    "expression": {
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-2",
        "expressionValue": {
            "@context": {
                "voc": "https://tmforum.org/vocab/intent/v1",
                "icm":
                "http://tio.models.tmforum.org/tio/v3.4.0/IntentCommonModel/",
                "imo":
                "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
            },
            "voc:name": "Increase network capacity",
            "voc:description": "Increase the overall network capacity in region X to accommodate anticipated traffic growth.%20 increase capacity in 1 hour",
            "voc:priority": "High",
            "icm:target": {
                "imo:@type": "NetworkResource",
                "imo:id": "region-X"
            },
            "imo:parameters": {
                "percentageIncrease": 20
            },
            "icm:constraints": {
                "completionTime": "PT1H"
            }
        },
        "@baseType": "Expression",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/JsonLdExpression.schema.json",
        "@type": "JsonLdExpression"
    },
    "validFor": {
        "endDateTime": "2023-04-12T23:20:50.52Z",
        "startDateTime": "2022-07-04T15:40:47.797Z"
    },
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Intent.schema.json",
    "@type": "Intent"
},
{
    "id": "20051",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20051",
    "description": "A probe intent resource",
    "name": "probeIntentExample",
    "lifecycleStatus": "Active",
    "version": "1.0",
    "expression": {
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/turtleExpression-example-1",
        "expressionValue": "@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .\n@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .\n@prefix icm: <http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .\n@prefix imo: <http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .\n@prefix pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .\n@prefix cat: <http://www.operator.com/Catalog#> .\n@prefix spot: <http://www.sdo1.org/Models/DynamicpriceOntology#> .\n@prefix met: <http://www.sdo2.org/TelecomMetrics/Version_1.0#> .\n@prefix t: <http://www.w3.org/2006/time#> .\n@prefix idan: <http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#> .\n@prefix iv: <https://tmforum.org/2021/07/intentValidity#> .\n@prefix itv: <https://tmforum.org/2021/07/intentTemporalValidity#> .\n@prefix cem: <http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .\n@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .\n@prefix sli: <http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .\n\n--- Intent"
}

```

```

-----\nidan:R1_PSE_Res_Slice_Intent1\n a icm:Intent ;\n    rdfs:comment
\" Intent for ordering connectivity via slice\";\n    imo:intentOwner
idan:IntentManagerXYZ_S;\n    cem:layer \"'resource'\";\n    icm:hasExpectation
idan:PSE_Exp_R1Slice_delivery,\n
idan:PSE_Exp_R1Slice_property,\n
idan:PSE_Exp_R1Slice_reporting; \n.\n##Delivery
Expectation\nidan:PSE_Exp_R1Slice_delivery\n a icm:DeliveryExpectation ;\n
icm:target _:resource_slice ;\n    icm:params
idan:PSE_Exp_R1Slice_delivery_Param_type;\n.\nidan:PSE_Exp_R1Slice_delivery_Param_ty
pe\n a icm:DeliveryParam ;\n    icm:targetDescription
cat:Slice_NEST_eMBB;\n.\n##Property Expectation\nidan:PSE_Exp_R1Slice_property\n a
icm:PropertyExpectation ;\n    icm:target _:resource_slice ;\n    icm:params
idan:PSE_Exp_R1Slice_property_Param_nssiId , \n
idan:PSE_Exp_R1Slice_property_Param_nssiName , \n
idan:PSE_Exp_R1Slice_property_Param_nsiId , \n
idan:PSE_Exp_R1Slice_property_Param_latency\n.\n.\nidan:PSE_Exp_R1Slice_property_Para
m_nssiId\n a icm:PropertyParams ;\n    sli:nssiId [ icm:value \"'NEST-
EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
.\n.\nidan:PSE_Exp_R1Slice_property_Param_nssiName\n a icm:PropertyParams ;\n
sli:nssiName [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\n.\nidan:PSE_Exp_R1Slice_property_Param_nsiId\n a icm:PropertyParams ;\n
sli:nsiId [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\n.\nidan:PSE_Exp_R1Slice_property_Param_latency\n a icm:PropertyParams ;\n
met:latency [ icm:atMost '\"12 ms' ] ;\n.\n.\n##Reporting
Expectation\nidan:PSE_Exp_R1Slice_reporting\n a icm:ReportingExpectation ;\n
icm:target idan:R1_PSE_Res_Slice_Intent1 ;\n    icm:params
idan:PSE_Exp_R1Slice_reporting_Param_interval,\n
idan:PSE_Exp_R1Slice_reporting_Param_event
;.\n.\nidan:PSE_Exp_R1Slice_reporting_Param_interval\n a icm:ReportingParam ;\n
icm:reportingInterval [ a t:Duration ;\n
t:numericDuration '\"10' ;\n                                t:temporalUnit
t:unitMinute ] .\nidan:PSE_Exp_R1Slice_reporting_Param_event          \n a
icm:ReportingParam ;\n    icm:reportingEvent icm:ReportingIntervalExpired ,\n
icm:IntentRejected ,\n                                icm:StateComplies ,\n
icm:StateDegrades ,\n                                icm:HandlingEnded ,\n
icm:UpdateRejected ,\n                                icm:UpdateFinished ;\n.\n.\n",
    "@baseType": "Expression",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/TurtleExpression.schema.json",
    "@type": "TurtleExpression"
},
"validFor": {
    "endDateTime": "2023-04-12T23:20:50.52Z",
    "startDateTime": "2022-08-04T15:40:47.797Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2023-03-09T08:42:33.044Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}

```

]

Retrieves a Intent by ID

GET /intent/{id}?fields=...

Description

This operation retrieves an Intent entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving a specific Intent object.

Request

```
GET /intent/20011
Content-Type: application/json
```

Response

```
200
{
  "id": "20011",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
  "creationDate": "2023-10-23T00:30:00.00Z",
  "description": "Intent for ordering live broadcast service for an event",
  "validFor": {
    "startDateTime": "2023-10-23T00:30:00.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
  },
  "name": "EventLiveBroadcast",
  "lastUpdate": "2023-10-23T00:30:00.00Z",
  "lifecycleStatus": "Created",
  "statusChangeDate": "2023-10-23T00:30:00.00Z",
  "version": "1.0",
  "priority": "1",
  "isBundled": false,
  "context": "Autonomous services",
  "intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "Intent Specification",
    "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
  },
  "characteristic": [
    {
      "id": "19997-pn",
      "name": "isTimeConstrained",
      "value": true,
      "valueType": "boolean",
      "valueType": "boolean"
    }
  ]
}
```

```
        "@type": "BooleanCharacteristic"
    }
],
"relatedParty": [
{
    "role": "user",
    "partyOrPartyRole": {
        "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
        "id": "19993",
        "name": "Marcus Aurelius",
        "@type": "PartyRef",
        "@referredType": "Individual"
    },
    "@type": "RelatedPartyRefOrPartyRoleRef"
}
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
            "cat": "http://www.operator.com/Catalog#",
            "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
            "xsd": "http://www.w3.org/2001/XMLSchema#",
            "t": "http://www.w3.org/2006/time#",
            "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
            "app": "http://www.operator.com/Catalog/StreamingApplication#",
            "geo": "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001": {
            "@type": "icm:Intent",
            "icm:intentOwner": "idan:Salesforce",
            "icm:hasExpectation": {
                "idan:Delivery_service": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "icm:targetDescription": "cat:EventWirelessAccess"
                    }
                },
                "idan:Delivery_app": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:application",
                    "icm:params": {
                        "icm:targetDescription": "cat:StreamingApplication"
                    }
                },
                "idan:Property_service": {
                    "@type": "icm:PropertyExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "elb:serviceQuality": [
                            {
                                "icm:value": "4KUHD"
                            }
                        ],
                        "elb:numberOfParticipants": [
                            {
                                "icm:atMost": "200"
                            }
                        ]
                    }
                }
            }
        }
    }
}
```

```
        }
    ],
    "elb:areaOfService": [
        {
            "geo:geographicPoints": [
                {
                    "geo:longitude": 90,
                    "geo:latitude": 44,
                    "geo:altitude": 84
                },
                {
                    "geo:longitude": 84,
                    "geo:latitude": -12,
                    "geo:altitude": 24
                },
                {
                    "geo:longitude": 131,
                    "geo:latitude": -36,
                    "geo:altitude": 29
                },
                {
                    "geo:longitude": 7,
                    "geo:latitude": 81,
                    "geo:altitude": -42
                }
            ]
        }
    ],
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ],
            "icm:reportingEvent": [
                "icm:StateComplies",
                "icm:StateComplies"
            ]
        }
    }
}
```

```

        "icm:StateDegrades"
    ]
}
}
}
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
}

```

Here's an example of a request for retrieving a specific ProbeIntent object.

Request

```

GET /intent/20051
Content-Type: application/json

```

Response

```

200

{
  "id": "20071",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
  "description": "A probe intent resource",
  "name": "probeIntentExample",
  "lifecycleStatus": "Active",
  "version": "1.0",
  "expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
      "@context": {
        "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
        "cat": "http://www.operator.com/Catalog#",
        "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
        "xsd": "http://www.w3.org/2001/XMLSchema#",
        "t": "http://www.w3.org/2006/time#",
        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
        "app": "http://www.operator.com/Catalog/StreamingApplication#",
        "geo": "https://tmforum.org/2020/07/geographicPoint#"
      },
      "idan:EventLiveBroadcast000001": {
        "@type": "icm:Intent",
        "icm:intentOwner": "idan:Salesforce",
        "icm:hasExpectation": {
          "idan:Delivery_service": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:service",
            "icm:params": {
              "icm:targetDescription": "cat:EventWirelessAccess"
            }
          }
        }
      }
    }
  }
}

```

```
        },
        "idan:Delivery_app": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "icm:targetDescription": "cat:StreamingApplication"
            }
        },
        "idan:Property_service": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "elb:serviceQuality": [
                    {
                        "icm:value": "4KUHD"
                    }
                ],
                "elb:numberOfParticipants": [
                    {
                        "icm:atMost": "200"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ]
            }
        },
        "idan:Property_app": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:application",
            "icm:params": [
                "app:appType": [
                    {
                        "icm:value": "AWS MediaLive"
                    },
                    {
                        "icm:value": "Facebook Live"
                    },
                    {
                        "icm:value": "YouTube"
                    }
                ]
            ]
        }
    }
}
```

```

        }
    ]
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
},
"validFor": {
    "endDateTime": "2026-04-30T15:40:47.000Z",
    "startDateTime": "2024-04-30T15:40:47.000Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2024-04-30T15:40:47.000Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}
}

```

Retrieves a IntentReport by ID

GET /intent/{intentId}/intentReport/{id}?fields=...

Description

This operation retrieves an Intent entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving a specific Intent object.

Request

```
GET /intent/20011/intentReport/20011
Content-Type: application/json
```

Response

```
200

{
  "id": "20011",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
  "creationDate": "2023-10-23T00:30:00.00Z",
  "description": "Intent for ordering live broadcast service for an event",
  "validFor": {
    "startDateTime": "2023-10-23T00:30:00.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
  },
  "name": "EventLiveBroadcast",
  "lastUpdate": "2023-10-23T00:30:00.00Z",
  "lifecycleStatus": "Created",
  "statusChangeDate": "2023-10-23T00:30:00.00Z",
  "version": "1.0",
  "priority": "1",
  "isBundled": false,
  "context": "Autonomous services",
  "intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
  },
  "characteristic": [
    {
      "id": "19997-pn",
      "name": "isTimeConstrained",
      "value": true,
      "valueType": "boolean",
      "@type": "BooleanCharacteristic"
    }
  ],
  "relatedParty": [
    {
      "role": "user",
      "partyOrPartyRole": {
        "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
        "id": "19993",
        "name": "Marcus Aurelius",
        "@type": "PartyRef",
        "@referredType": "Individual"
      },
      "@type": "RelatedPartyRefOrPartyRoleRef"
    }
  ]
}
```

```

        }
    ],
    "expression": {
        "@type": "JsonLdExpression",
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
        "expressionValue": {
            "@context": {
                "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                "cat": "http://www.operator.com/Catalog#",
                "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
                "xsd": "http://www.w3.org/2001/XMLSchema#",
                "t": "http://www.w3.org/2006/time#",
                "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                "app": "http://www.operator.com/Catalog/StreamingApplication#",
                "geo": "https://tmforum.org/2020/07/geographicPoint#"
            },
            "idan:EventLiveBroadcast000001": {
                "@type": "icm:Intent",
                "icm:intentOwner": "idan:Salesforce",
                "icm:hasExpectation": {
                    "idan:Delivery_service": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:service",
                        "icm:params": {
                            "icm:targetDescription": "cat:EventWirelessAccess"
                        }
                    },
                    "idan:Delivery_app": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:application",
                        "icm:params": {
                            "icm:targetDescription": "cat:StreamingApplication"
                        }
                    },
                    "idan:Property_service": {
                        "@type": "icm:PropertyExpectation",
                        "icm:target": "_:service",
                        "icm:params": {
                            "elb:serviceQuality": [
                                {
                                    "icm:value": "4KUHD"
                                }
                            ],
                            "elb:numberOfParticipants": [
                                {
                                    "icm:atMost": "200"
                                }
                            ],
                            "elb:areaOfService": [
                                {
                                    "geo:geographicPoints": [
                                        {
                                            "geo:longitude": 90,
                                            "geo:latitude": 44,
                                            "geo:altitude": 84
                                        },
                                        {
                                            "geo:longitude": 84,
                                            "geo:latitude": -12,
                                            "geo:altitude": 24
                                        }
                                    ]
                                }
                            ]
                        }
                    }
                }
            }
        }
    }
}

```

```
{
    "geo:longitude": 131,
    "geo:latitude": -36,
    "geo:altitude": 29
},
{
    "geo:longitude": 7,
    "geo:latitude": 81,
    "geo:altitude": -42
}
]
}
]
}
},
"idan:Property_app": {
    "@type": "icm:PropertyExpectation",
    "icm:target": "_:application",
    "icm:params": {
        "app:appType": [
            {
                "icm:value": "AWS MediaLive"
            },
            {
                "icm:value": "Facebook Live"
            },
            {
                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
    "@type": "Intent"
}
```

Here's an example of a request for retrieving a specific ProbeIntent object.

Request

```
GET /intent/20051/intentReport/20051
Content-Type: application/json
```

Response

```
200

{
    "id": "20071",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
    "description": "A probe intent resource",
    "name": "probeIntentExample",
    "lifecycleStatus": "Active",
    "version": "1.0",
    "expression": {
        "@type": "JsonLdExpression",
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
        "expressionValue": {
            "@context": {
                "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                "cat": "http://www.operator.com/Catalog#",
                "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
                "xsd": "http://www.w3.org/2001/XMLSchema#",
                "t": "http://www.w3.org/2006/time#",
                "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                "app": "http://www.operator.com/Catalog/StreamingApplication#",
                "geo": "https://tmforum.org/2020/07/geographicPoint#"
            },
            "idan:EventLiveBroadcast000001": {
                "@type": "icm:Intent",
                "icm:intentOwner": "idan:Salesforce",
                "icm:hasExpectation": {
                    "idan:Delivery_service": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:service",
                        "icm:params": {
                            "icm:targetDescription": "cat:EventWirelessAccess"
                        }
                    },
                    "idan:Delivery_app": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:application",
                        "icm:params": {
                            "icm:targetDescription": "cat:StreamingApplication"
                        }
                    },
                    "idan:Property_service": {
                        "@type": "icm:PropertyExpectation",
                        "icm:target": "_:service",
                        "icm:params": [
                            "elb:serviceQuality": [
                                {
                                    "icm:value": "4KUHD"
                                }
                            ]
                        ]
                    }
                }
            }
        }
    }
}
```

```
        }
    ],
    "elb:numberOfParticipants": [
        {
            "icm:atMost": "200"
        }
    ],
    "elb:areaOfService": [
        {
            "geo:geographicPoints": [
                {
                    "geo:longitude": 90,
                    "geo:latitude": 44,
                    "geo:altitude": 84
                },
                {
                    "geo:longitude": 84,
                    "geo:latitude": -12,
                    "geo:altitude": 24
                },
                {
                    "geo:longitude": 131,
                    "geo:latitude": -36,
                    "geo:altitude": 29
                },
                {
                    "geo:longitude": 7,
                    "geo:latitude": 81,
                    "geo:altitude": -42
                }
            ]
        }
    ],
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ]
        }
    }
}
```

```

        ]
    }
],
"icm:reportingEvent": [
    "icm:StateComplies",
    "icm:StateDegrades"
]
}
}
}
},
"validFor": {
    "endDateTime": "2026-04-30T15:40:47.000Z",
    "startDateTime": "2024-04-30T15:40:47.000Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2024-04-30T15:40:47.000Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}
}

```

List or find Intent objects

GET /intent?fields=...

Description

This operation list Intent entities. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving multiple Intent objects

Request

```

GET /intent?lifecycleStatus=Active
Content-Type: application/json

```

Response

```
200
[
  {
    "id": "20011",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
    "creationDate": "2023-10-23T00:30:00.00Z",
    "description": "Intent for ordering live broadcast service for an event",
    "validFor": {
      "startDateTime": "2023-10-23T00:30:00.00Z",
      "endDateTime": "2024-10-19T23:30:00.00Z"
    },
    "name": "EventLiveBroadcast",
    "lastUpdate": "2023-10-23T00:30:00.00Z",
    "lifecycleStatus": "Active",
    "statusChangeDate": "2023-10-23T00:30:00.00Z",
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
    "context": "Autonomous services",
    "intentSpecification": {
      "@type": "IntentSpecificationRef",
      "id": "EventLiveBroadcast_IntentSpec",
      "name": "EventLiveBroadcastIntentSpec",
      "@referredType": "IntentSpecification",
      "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "characteristic": [
      {
        "id": "19997-pn",
        "name": "isTimeConstrained",
        "value": true,
        "valueType": "boolean",
        "@type": "BooleanCharacteristic"
      }
    ],
    "relatedParty": [
      {
        "role": "user",
        "partyOrPartyRole": {
          "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
          "id": "19993",
          "name": "Marcus Aurelius",
          "@type": "PartyRef",
          "@referredType": "Individual"
        },
        "@type": "RelatedPartyRefOrPartyRoleRef"
      }
    ],
    "expression": {
      "@type": "JsonLdExpression",
      "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
      "expressionValue": {
        "@context": {
          "icm":
          "http://tio.models.tmforum.org/tio/v3.4.0/IntentCommonModel/",
          "imo":
          "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/",
          "log":
          "http://tio.models.tmforum.org/tio/v3.4.0/LogicalOperators/",
          "cat": "http://www.operator.com/Catalog#",
        }
      }
    }
  }
]
```

```
        "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
        "xsd": "http://www.w3.org/2001/XMLSchema#",
        "t": "http://www.w3.org/2006/time#",
        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
        "app": "http://www.operator.com/Catalog/StreamingApplication#",
        "geo": "https://tmforum.org/2020/07/geographicPoint#"
    },
    "idan:EventLiveBroadcast000001": {
        "@type": "icm:Intent",
        "icm:intentOwner": "idan:Salesforce",
        "icm:hasExpectation": {
            "idan:Delivery_service": {
                "@type": "icm:DeliveryExpectation",
                "icm:target": "_:service",
                "icm:params": {
                    "icm:targetDescription": "cat:EventWirelessAccess"
                }
            },
            "idan:Delivery_app": {
                "@type": "icm:DeliveryExpectation",
                "icm:target": "_:application",
                "icm:params": {
                    "icm:targetDescription": "cat:StreamingApplication"
                }
            },
            "idan:Property_service": {
                "@type": "icm:PropertyExpectation",
                "icm:target": "_:service",
                "icm:params": {
                    "elb:serviceQuality": [
                        {
                            "icm:value": "4KUHD"
                        }
                    ],
                    "elb:numberOfParticipants": [
                        {
                            "icm:atMost": "200"
                        }
                    ],
                    "elb:areaOfService": [
                        {
                            "geo:geographicPoints": [
                                {
                                    "geo:longitude": 90,
                                    "geo:latitude": 44,
                                    "geo:altitude": 84
                                },
                                {
                                    "geo:longitude": 84,
                                    "geo:latitude": -12,
                                    "geo:altitude": 24
                                },
                                {
                                    "geo:longitude": 131,
                                    "geo:latitude": -36,
                                    "geo:altitude": 29
                                },
                                {
                                    "geo:longitude": 7,
                                    "geo:latitude": 81,
                                    "geo:altitude": -42
                                }
                            ]
                        }
                    ]
                }
            }
        }
    }
}
```

```
        ]
    }
}
},
"idan:Property_app": {
    "@type": "icm:PropertyExpectation",
    "icm:target": "_:application",
    "icm:params": {
        "app:appType": [
            {
                "icm:value": "AWS MediaLive"
            },
            {
                "icm:value": "Facebook Live"
            },
            {
                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
},
{
"id": "20023",
"href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20023",
"creationDate": "2022-07-04T15:40:47.797Z",
"description": "An intent resource",
"lastUpdate": "2022-07-04T15:40:47.797Z",
"lifecycleStatus": "Active",
"name": "Increase network capacity Intent",
"statusChangeDate": "2022-07-04T15:40:47.797Z",
"version": "1.0",
"priority": "1",
"isBundled": false,
"context": "intent-based networks",
```

```

    "expression": {
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-2",
        "expressionValue": {
            "@context": {
                "voc": "https://tmforum.org/vocab/intent/v1",
                "icm": "http://tio.models.tmforum.org/tio/v3.4.0/IntentCommonModel/",
                "imo": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
            },
            "voc:name": "Increase network capacity",
            "voc:description": "Increase the overall network capacity in region X to accommodate anticipated traffic growth.%20 increase capacity in 1 hour",
            "voc:priority": "High",
            "icm:target": {
                "imo:@type": "NetworkResource",
                "imo:id": "region-X"
            },
            "imo:parameters": {
                "percentageIncrease": 20
            },
            "icm:constraints": {
                "completionTime": "PT1H"
            }
        },
        "@baseType": "Expression",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/JsonLdExpression.schema.json",
        "@type": "JsonLdExpression"
    },
    "validFor": {
        "endDateTime": "2023-04-12T23:20:50.52Z",
        "startDateTime": "2022-07-04T15:40:47.797Z"
    },
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Intent.schema.json",
    "@type": "Intent"
},
{
    "id": "20051",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20051",
    "description": "A probe intent resource",
    "name": "probeIntentExample",
    "lifecycleStatus": "Active",
    "version": "1.0",
    "expression": {
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/turtleExpression-example-1",
        "expressionValue": "@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .\n@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .\n@prefix icm: <http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .\n@prefix imo: <http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .\n@prefix pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .\n@prefix cat: <http://www.operator.com/Catalog#> .\n@prefix spot: <http://www.sdo1.org/Models/DynamicpriceOntology#> .\n@prefix met: <http://www.sdo2.org/TelecomMetrics/Version_1.0#> .\n@prefix t: <http://www.w3.org/2006/time#> .\n@prefix idan: <http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#> .\n@prefix iv: <https://tmforum.org/2021/07/intentValidity#> .\n@prefix itv: <https://tmforum.org/2021/07/intentTemporalValidity#> .\n@prefix cem: <http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .\n@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .\n@prefix sli: <http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .\n\n--- Intent"
}

```

```

-----\nidan:R1_PSE_Res_Slice_Intent1\n a icm:Intent ;\n    rdfs:comment
\" Intent for ordering connectivity via slice\";\n    imo:intentOwner
idan:IntentManagerXYZ_S;\n    cem:layer \"'resource'\";\n    icm:hasExpectation
idan:PSE_Exp_R1Slice_delivery,\n
idan:PSE_Exp_R1Slice_property,\n
idan:PSE_Exp_R1Slice_reporting; \n.\n##Delivery
Expectation\nidan:PSE_Exp_R1Slice_delivery\n a icm:DeliveryExpectation ;\n
icm:target _:resource_slice ;\n    icm:params
idan:PSE_Exp_R1Slice_delivery_Param_type;\n.\nidan:PSE_Exp_R1Slice_delivery_Param_ty
pe\n a icm:DeliveryParam ;\n    icm:targetDescription
cat:Slice_NEST_eMBB;\n.\n##Property Expectation\nidan:PSE_Exp_R1Slice_property\n a
icm:PropertyExpectation ;\n    icm:target _:resource_slice ;\n    icm:params
idan:PSE_Exp_R1Slice_property_Param_nssiId , \n
idan:PSE_Exp_R1Slice_property_Param_nssiName , \n
idan:PSE_Exp_R1Slice_property_Param_nsiId , \n
idan:PSE_Exp_R1Slice_property_Param_latency\n.\n.\nidan:PSE_Exp_R1Slice_property_Para
m_nssiId\n a icm:PropertyParams ;\n    sli:nssiId [ icm:value \"'NEST-
EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
.\n.\nidan:PSE_Exp_R1Slice_property_Param_nssiName\n a icm:PropertyParams ;\n
sli:nssiName [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\n.\nidan:PSE_Exp_R1Slice_property_Param_nsiId\n a icm:PropertyParams ;\n
sli:nsiId [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\n.\nidan:PSE_Exp_R1Slice_property_Param_latency\n a icm:PropertyParams ;\n
met:latency [ icm:atMost '\"12 ms'\"] ;\n.\n.\n##Reporting
Expectation\nidan:PSE_Exp_R1Slice_reporting\n a icm:ReportingExpectation ;\n
icm:target idan:R1_PSE_Res_Slice_Intent1 ;\n    icm:params
idan:PSE_Exp_R1Slice_reporting_Param_interval,\n
idan:PSE_Exp_R1Slice_reporting_Param_event
;.\n.\nidan:PSE_Exp_R1Slice_reporting_Param_interval\n a icm:ReportingParam ;\n
icm:reportingInterval [ a t:Duration ;\n
t:numericDuration '\"10'\";\n                                t:temporalUnit
t:unitMinute ] .\nidan:PSE_Exp_R1Slice_reporting_Param_event\n a
icm:ReportingParam ;\n    icm:reportingEvent icm:ReportingIntervalExpired ,\n
icm:IntentRejected ,\n                                icm:StateComplies ,\n
icm:StateDegrades ,\n                                icm:HandlingEnded ,\n
icm:UpdateRejected ,\n                                icm:UpdateFinished ;\n.\n.\n",
    "@baseType": "Expression",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/TurtleExpression.schema.json",
    "@type": "TurtleExpression"
},
"validFor": {
    "endDateTime": "2023-04-12T23:20:50.52Z",
    "startDateTime": "2022-08-04T15:40:47.797Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2023-03-09T08:42:33.044Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}

```

]

Creates a Intent

POST /intent?fields=...

Description

This operation creates an Intent entity.

Mandatory Attributes

| Mandatory Attributes | Rule |
|----------------------|------|
| expression | |
| expression.@type | |
| expression.iri | |
| name | |
| @type | |

Usage samples

Here's an example of a request for creating an Intent object.

Request

```

POST /intent
Content-Type: application/json

{
    "name": "EventLiveBroadcast",
    "description": "Intent for ordering live broadcast service for an event",
    "validFor": {
        "startDateTime": "2023-10-23T00:30:00.00Z",
        "endDateTime": "2024-10-19T23:30:00.00Z"
    },
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
    "context": "Autonomous services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "characteristic": [
        {
            "id": "19997-pn",
            "name": "isTimeConstrained",
            "value": true,
            "valueType": "boolean",
            "@type": "BooleanCharacteristic"
        }
    ]
}

```

```
        }
    ],
    "relatedParty": [
        {
            "role": "user",
            "partyOrPartyRole": {
                "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
                "id": "19993",
                "name": "Marcus Aurelius",
                "@type": "PartyRef",
                "@referredType": "Individual"
            },
            "@type": "RelatedPartyRefOrPartyRoleRef"
        }
    ],
    "expression": {
        "@type": "JsonLdExpression",
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
        "expressionValue": {
            "@context": {
                "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                "cat": "http://www.operator.com/Catalog#",
                "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
                "xsd": "http://www.w3.org/2001/XMLSchema#",
                "t": "http://www.w3.org/2006/time#",
                "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                "app": "http://www.operator.com/Catalog/StreamingApplication#",
                "geo": "https://tmforum.org/2020/07/geographicPoint#"
            },
            "idan:EventLiveBroadcast000001": {
                "@type": "icm:Intent",
                "icm:intentOwner": "idan:Salesforce",
                "icm:hasExpectation": {
                    "idan:Delivery_service": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:service",
                        "icm:params": {
                            "icm:targetDescription": "cat:EventWirelessAccess"
                        }
                    },
                    "idan:Delivery_app": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:application",
                        "icm:params": {
                            "icm:targetDescription": "cat:StreamingApplication"
                        }
                    },
                    "idan:Property_service": {
                        "@type": "icm:PropertyExpectation",
                        "icm:target": "_:service",
                        "icm:params": {
                            "elb:serviceQuality": [
                                {
                                    "icm:value": "4KUHD"
                                }
                            ],
                            "elb:numberOfParticipants": [
                                {
                                    "icm:atMost": "200"
                                }
                            ]
                        }
                    }
                }
            }
        }
    }
}
```

```
        ],
        "elb:areaOfService": [
            {
                "geo:geographicPoints": [
                    {
                        "geo:longitude": 90,
                        "geo:latitude": 44,
                        "geo:altitude": 84
                    },
                    {
                        "geo:longitude": 84,
                        "geo:latitude": -12,
                        "geo:altitude": 24
                    },
                    {
                        "geo:longitude": 131,
                        "geo:latitude": -36,
                        "geo:altitude": 29
                    },
                    {
                        "geo:longitude": 7,
                        "geo:latitude": 81,
                        "geo:altitude": -42
                    }
                ]
            }
        ],
        "idan:Property_app": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "app:appType": [
                    {
                        "icm:value": "AWS MediaLive"
                    },
                    {
                        "icm:value": "Facebook Live"
                    },
                    {
                        "icm:value": "YouTube"
                    }
                ]
            }
        },
        "idan:Reporting": {
            "@type": "icm:ReportingExpectation",
            "icm:target": "idan:EventLiveBroadcast",
            "icm:params": {
                "icm:reportingInterval": [
                    {
                        "t:Duration": [
                            {
                                "t:numbericDuration": 10,
                                "t:temporalUnit": "unitMinute"
                            }
                        ]
                    }
                ],
                "icm:reportingEvent": [
                    "icm:StateComplies",
                    "icm:StateDegrades"
                ]
            }
        }
    }
}
```

```
        ]
    }
}
}
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
}
```

Response

```
201

{
  "id": "20011",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
  "creationDate": "2023-10-23T00:30:00.00Z",
  "description": "Intent for ordering live broadcast service for an event",
  "validFor": {
    "startDateTime": "2023-10-23T00:30:00.00Z",
    "endDateTime": "2024-10-19T23:30:00.00Z"
  },
  "name": "EventLiveBroadcast",
  "lastUpdate": "2023-10-23T00:30:00.00Z",
  "lifecycleStatus": "Created",
  "statusChangeDate": "2023-10-23T00:30:00.00Z",
  "version": "1.0",
  "priority": "1",
  "isBundled": false,
  "context": "Autonomous services",
  "intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
  },
  "characteristic": [
    {
      "id": "19997-pn",
      "name": "isTimeConstrained",
      "value": true,
      "valueType": "boolean",
      "@type": "BooleanCharacteristic"
    }
  ],
  "relatedParty": [
    {
      "role": "user",
      "partyOrPartyRole": {
        "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
        "id": "19993",
        "name": "Marcus Aurelius",
        "@type": "PartyRef",
        "@referredType": "Individual"
      },
    }
  ]
}
```

```
        "@type": "RelatedPartyRefOrPartyRoleRef"
    }
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
            "cat": "http://www.operator.com/Catalog#",
            "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
            "xsd": "http://www.w3.org/2001/XMLSchema#",
            "t": "http://www.w3.org/2006/time#",
            "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
            "app": "http://www.operator.com/Catalog/StreamingApplication#",
            "geo": "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001": {
            "@type": "icm:Intent",
            "icm:intentOwner": "idan:Salesforce",
            "icm:hasExpectation": {
                "idan:Delivery_service": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "icm:targetDescription": "cat:EventWirelessAccess"
                    }
                },
                "idan:Delivery_app": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:application",
                    "icm:params": {
                        "icm:targetDescription": "cat:StreamingApplication"
                    }
                },
                "idan:Property_service": {
                    "@type": "icm:PropertyExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "elb:serviceQuality": [
                            {
                                "icm:value": "4KUHD"
                            }
                        ],
                        "elb:numberOfParticipants": [
                            {
                                "icm:atMost": "200"
                            }
                        ],
                        "elb:areaOfService": [
                            {
                                "geo:geographicPoints": [
                                    {
                                        "geo:longitude": 90,
                                        "geo:latitude": 44,
                                        "geo:altitude": 84
                                    },
                                    {
                                        "geo:longitude": 84,
                                        "geo:latitude": -12,
                                        "geo:altitude": 24
                                    }
                                ]
                            }
                        ]
                    }
                }
            }
        }
    }
}
```

```
        },
        {
            "geo:longitude": 131,
            "geo:latitude": -36,
            "geo:altitude": 29
        },
        {
            "geo:longitude": 7,
            "geo:latitude": 81,
            "geo:altitude": -42
        }
    ]
}
},
"idan:Property_app": {
    "@type": "icm:PropertyExpectation",
    "icm:target": "_:application",
    "icm:params": {
        "app:appType": [
            {
                "icm:value": "AWS MediaLive"
            },
            {
                "icm:value": "Facebook Live"
            },
            {
                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
    "@type": "Intent"
}
```

Here's an example of a request for creating a Probe Intent object.

Request

```
POST /intent
Content-Type: application/json

{
  "description": "A probe intent resource",
  "name": "probeIntentExample",
  "version": "1.0",
  "expression": {
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/turtleExpression-example-1",
    "expressionValue": "@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .\n@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .\n@prefix icm: <http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .\n@prefix imo: <http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .\n@prefix pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .\n@prefix cat: <http://www.operator.com/Catalog#> .\n@prefix spot: <http://www.sdo1.org/Models/DynamicpriceOntology#> .\n@prefix met: <http://www.sdo2.org/TelecomMetrics/Version_1.0#> .\n@prefix t: <http://www.w3.org/2006/time#> .\n@prefix idan: <http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#> .\n@prefix iv: <https://tmforum.org/2021/07/intentValidity#> .\n@prefix itv: <https://tmforum.org/2021/07/intentTemporalValidity#> .\n@prefix cem: <http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .\n@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .\n@prefix sli: <http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .\n\n# --- Intent\n-----\nidan:R1_PSE_Res_Slice_Intent1\n  a icm:Intent ;\n  rdfs:comment\n    \"'Intent for ordering connectivity via slice'\";\n  imo:intentOwner\n  idan:IntentManagerXYZ_S;\n  cem:layer \"'resource'\";\n  icm:hasExpectation\n  idan:PSE_Exp_R1Slice_delivery,\n  idan:PSE_Exp_R1Slice_property,\n  idan:PSE_Exp_R1Slice_reporting; .\n\n##Delivery\nExpectation\n  idan:PSE_Exp_R1Slice_delivery\n  a icm:DeliveryExpectation ;\n  icm:target _:resource_slice ;\n  icm:params\n  idan:PSE_Exp_R1Slice_delivery_Param_type;\n  .\n  idan:PSE_Exp_R1Slice_delivery_Param_type\n  a icm:DeliveryParam ;\n  icm:targetDescription\n  cat:Slice_NEST_eMBB;\n  .\n##Property\n  Expectation\n  idan:PSE_Exp_R1Slice_property\n  a icm:PropertyExpectation ;\n  icm:target _:resource_slice ;\n  icm:params\n  idan:PSE_Exp_R1Slice_property_Param_nssiId ,\n  .\n  idan:PSE_Exp_R1Slice_property_Param_nssiName ,\n  .\n  idan:PSE_Exp_R1Slice_property_Param_nsiId ,\n  .\n  idan:PSE_Exp_R1Slice_property_Param_latency\n  .\n  idan:PSE_Exp_R1Slice_property_Param_latency\n  a icm:PropertyParam ;\n  sli:nssiId [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\" ]\n  ;\n  .\n  idan:PSE_Exp_R1Slice_property_Param_nssiName\n  a icm:PropertyParams ;\n  sli:nssiName [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\" ]\n  ;\n  .\n  idan:PSE_Exp_R1Slice_property_Param_nsiId\n  a icm:PropertyParams ;\n  sli:nsiId [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\" ]\n  ;\n  .\n  idan:PSE_Exp_R1Slice_property_Param_latency\n  a icm:PropertyParams ;\n  met:latency [ icm:atMost \"'12 ms'\" ] ;\n  .\n##Reporting\n  Expectation\n  idan:PSE_Exp_R1Slice_reporting\n  a icm:ReportingExpectation ;\n  icm:target\n  idan:R1_PSE_Res_Slice_Intent1 ;\n  icm:params\n  idan:PSE_Exp_R1Slice_reporting_Param_interval,\n  .\n  idan:PSE_Exp_R1Slice_reporting_Param_event\n  ;\n  .\n  idan:PSE_Exp_R1Slice_reporting_Param_interval\n  a icm:ReportingParam ;\n  icm:reportingInterval [ a t:Duration ;\n  t:numericDuration \"'10'\" ;\n  t:temporalUnit\n  t:unitMinute ] .\n  idan:PSE_Exp_R1Slice_reporting_Param_event\n  a icm:ReportingParam ;\n  .\n  icm:reportingEvent icm:ReportingIntervalExpired ,\n  .
```

```

icm:IntentRejected ,\n
icm:StateDegrades ,\n
icm:UpdateRejected ,\n
    "@baseType": "Expression",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/TurtleExpression.schema.json",
    "@type": "TurtleExpression"
},
"validFor": {
    "endDateTime": "2023-04-12T23:20:50.52Z",
    "startDateTime": "2022-08-04T15:40:47.797Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}
}

```

Response

```

201
{
  "id": "20051",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20051",
  "description": "A probe intent resource",
  "name": "probeIntentExample",
  "version": "1.0",
  "expression": {
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/turtleExpression-example-1",
    "expressionValue": "@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-
ns#> .\n@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .\n@prefix icm:
<http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .\n@prefix imo:
<http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .\n@prefix
pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .\n@prefix
cat: <http://www.operator.com/Catalog#> .\n@prefix spot:
<http://www.sdo1.org/Models/DynamicpriceOntology#> .\n@prefix met:
<http://www.sdo2.org/TelecomMetrics/Version_1.0#> .\n@prefix t:
<http://www.w3.org/2006/time#> .\n@prefix idan: <http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#> .\n@prefix iv:
<https://tmforum.org/2021/07/intentValidity#> .\n@prefix itv:
<https://tmforum.org/2021/07/intentTemporalValidity#> .\n@prefix cem:
<http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .\n@prefix
xsd: <http://www.w3.org/2001/XMLSchema#> .\n@prefix sli:
<http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .\n\n# --- Intent
-----\nidan:R1_PSE_Res_Slice_Intent1\n a icm:Intent ;\n rdfs:comment
\"Intent for ordering connectivity via slice\";\n imo:intentOwner
idan:IntentManagerXYZ_S;\n cem:layer \"'resource'\";\n icm:hasExpectation
idan:PSE_Exp_R1Slice_delivery,\n

```

```

idan:PSE_Exp_R1Slice_property,\n
idan:PSE_Exp_R1Slice_reporting; \n.\n##Delivery\n
Expectation\nidan:PSE_Exp_R1Slice_delivery\n a icm:DeliveryExpectation ;\n
icm:target _:resource_slice ;\n    icm:params\n
idan:PSE_Exp_R1Slice_delivery_Param_type;\n.\nidan:PSE_Exp_R1Slice_delivery_Param_ty
pe\n a icm:DeliveryParam ;\n    icm:targetDescription\n
cat:Slice_NEST_eMBB;\n.\n##Property Expectation\nidan:PSE_Exp_R1Slice_property\n a
icm:PropertyExpectation ;\n    icm:target _:resource_slice ;\n    icm:params\n
idan:PSE_Exp_R1Slice_property_Param_nssiId , \n
idan:PSE_Exp_R1Slice_property_Param_nssiName , \n
idan:PSE_Exp_R1Slice_property_Param_nsiId , \n
idan:PSE_Exp_R1Slice_property_Param_latency\n.\nidan:PSE_Exp_R1Slice_property_Para
m_nssiId\n a icm:PropertyParams ;\n    sli:nssiId [ icm:value \"'NEST-
EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]\n
;.\nidan:PSE_Exp_R1Slice_property_Param_nssiName\n a icm:PropertyParams ;\n
sli:nssiName [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\nidan:PSE_Exp_R1Slice_property_Param_nsiId\n a icm:PropertyParams ;\n
sli:nsiId [ icm:value \"'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'\\"^^xsd:string ]
;.\nidan:PSE_Exp_R1Slice_property_Param_latency\n a icm:PropertyParams ;\n
met:latency [ icm:atMost '\"12 ms'\" ] ;\n.\n##Reporting\n
Expectation\nidan:PSE_Exp_R1Slice_reporting\n a icm:ReportingExpectation ;\n
icm:target idan:R1_PSE_Res_Slice_Intent1 ;\n    icm:params\n
idan:PSE_Exp_R1Slice_reporting_Param_interval,\n
idan:PSE_Exp_R1Slice_reporting_Param_event\n
;.\nidan:PSE_Exp_R1Slice_reporting_Param_interval\n a icm:ReportingParam ;\n
icm:reportingInterval [ a t:Duration ;\n
t:numericDuration '\"10'\" ;\n    t:temporalUnit\n
t:unitMinute ] .\nidan:PSE_Exp_R1Slice_reporting_Param_event\n
icm:ReportingParam ;\n    icm:reportingEvent icm:ReportingIntervalExpired ,\n
icm:IntentRejected ,\n    icm:StateComplies ,\n
icm:StateDegrades ,\n    icm:HandlingEnded ,\n
icm:UpdateRejected ,\n    icm:UpdateFinished ;\n.\n\n",
"@baseType": "Expression",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/TurtleExpression.schema.json",
"@type": "TurtleExpression"
},
"validFor": {
  "endDateTime": "2023-04-12T23:20:50.52Z",
  "startDateTime": "2022-08-04T15:40:47.797Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
  "@type": "IntentSpecificationRef",
  "id": "EventLiveBroadcast_IntentSpec",
  "name": "EventLiveBroadcastIntentSpec",
  "@referredType": "IntentSpecification",
  "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2023-03-09T08:42:33.044Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}
}

```

Updates partially a Intent

PATCH /intent/{id}?fields=...

Description

This operation allows partial updates of an Intent entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optional. Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

| Non Patchable Attributes | Rule |
|--------------------------|------------------------------|
| creationDate | |
| href | |
| id | |
| lastUpdate | |
| statusChangeDate | |
| version | |
| @baseType | @baseType is immutable |
| @schemaLocation | @schemaLocation is immutable |
| @type | @type is immutable |

| Patchable Attributes | Rule |
|----------------------|------|
| attachment | |
| characteristic | |
| context | |
| description | |
| expression | |
| intentRelationship | |
| intentSpecification | |
| isBundle | |
| lifecycleStatus | |
| name | |
| priority | |
| relatedParty | |
| validFor | |

Usage samples

Here is an example of patching an intent (Patch merge format with application/json content type). In this example, a new validity period and description set.

Request

```
PATCH /intent/20011
Content-Type: application/json

{
    "description": "An intent resource update example",
    "validFor": {
        "endDateTime": "2024-09-12T16:40:00.000Z",
        "startDateTime": "2023-12-12T16:40:00.000Z"
    },
    "@type": "Intent"
}
```

Response

```
200

{
    "id": "20011",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
    "creationDate": "2023-10-23T00:30:00.00Z",
    "description": "An intent resource update example",
    "validFor": {
        "endDateTime": "2024-09-12T16:40:00.000Z",
        "startDateTime": "2023-12-12T16:40:00.000Z"
    },
    "name": "EventLiveBroadcast",
    "lastUpdate": "2023-10-23T00:30:00.00Z",
    "lifecycleStatus": "Created",
    "statusChangeDate": "2023-10-23T00:30:00.00Z",
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
    "context": "Autonomous services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "characteristic": [
        {
            "id": "19997-pn",
            "name": "isTimeConstrained",
            "value": true,
            "valueType": "boolean",
            "@type": "BooleanCharacteristic"
        }
    ],
    "relatedParty": [
        {
            "id": "19997-pn"
        }
    ]
}
```

```
        "role": "user",
        "partyOrPartyRole": {
            "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
            "id": "19993",
            "name": "Marcus Aurelius",
            "@type": "PartyRef",
            "@referredType": "Individual"
        },
        "@type": "RelatedPartyRefOrPartyRoleRef"
    }
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm":
                "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                "cat": "http://www.operator.com/Catalog#",
                "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
                "xsd": "http://www.w3.org/2001/XMLSchema#",
                "t": "http://www.w3.org/2006/time#",
                "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                "app": "http://www.operator.com/Catalog/StreamingApplication#",
                "geo": "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001": {
            "@type": "icm:Intent",
            "icm:intentOwner": "idan:Salesforce",
            "icm:hasExpectation": {
                "idan:Delivery_service": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "icm:targetDescription": "cat:EventWirelessAccess"
                    }
                },
                "idan:Delivery_app": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:application",
                    "icm:params": {
                        "icm:targetDescription": "cat:StreamingApplication"
                    }
                },
                "idan:Property_service": {
                    "@type": "icm:PropertyExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "elb:serviceQuality": [
                            {
                                "icm:value": "4KUHD"
                            }
                        ],
                        "elb:numberOfParticipants": [
                            {
                                "icm:atMost": "200"
                            }
                        ],
                        "elb:areaOfService": [
                            {
                                "geo:geographicPoints": [

```

```
{
    "geo:longitude": 90,
    "geo:latitude": 44,
    "geo:altitude": 84
},
{
    "geo:longitude": 84,
    "geo:latitude": -12,
    "geo:altitude": 24
},
{
    "geo:longitude": 131,
    "geo:latitude": -36,
    "geo:altitude": 29
},
{
    "geo:longitude": 7,
    "geo:latitude": 81,
    "geo:altitude": -42
}
]
}
]
},
"idan:Property_app": {
    "@type": "icm:PropertyExpectation",
    "icm:target": "_:application",
    "icm:params": {
        "app:appType": [
            {
                "icm:value": "AWS MediaLive"
            },
            {
                "icm:value": "Facebook Live"
            },
            {
                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
}
```

```

        }
    },
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
    "@type": "Intent"
}

```

Here is an example of patching an intent (Patch merge format with application/merge-patch+json content type). In this example, a new validity period and description set.

Request

```

PATCH /intent/20011
Content-Type: application/merge-patch+json

{
    "description": "An intent resource update example",
    "validFor": {
        "endDateTime": "2024-09-12T16:40:00.000Z",
        "startDateTime": "2023-12-12T16:40:00.000Z"
    },
    "@type": "Intent"
}

```

Response

```

200

{
    "id": "20011",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
    "creationDate": "2023-10-23T00:30:00.00Z",
    "description": "An intent resource update example",
    "validFor": {
        "endDateTime": "2024-09-12T16:40:00.000Z",
        "startDateTime": "2023-12-12T16:40:00.000Z"
    },
    "name": "EventLiveBroadcast",
    "lastUpdate": "2023-10-23T00:30:00.00Z",
    "lifecycleStatus": "Created",
    "statusChangeDate": "2023-10-23T00:30:00.00Z",
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
    "context": "Autonomous services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "characteristic": [
        {
            "id": "19997-pn",
            "name": "isTimeConstrained",

```

```
        "value": true,
        "valueType": "boolean",
        "@type": "BooleanCharacteristic"
    }
],
"relatedParty": [
{
    "role": "user",
    "partyOrPartyRole": {
        "href": "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/456",
        "id": "19993",
        "name": "Marcus Aurelius",
        "@type": "PartyRef",
        "@referredType": "Individual"
    },
    "@type": "RelatedPartyRefOrPartyRoleRef"
}
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
            "cat": "http://www.operator.com/Catalog#",
            "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
            "xsd": "http://www.w3.org/2001/XMLSchema#",
            "t": "http://www.w3.org/2006/time#",
            "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
            "app": "http://www.operator.com/Catalog/StreamingApplication#",
            "geo": "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001": {
            "@type": "icm:Intent",
            "icm:intentOwner": "idan:Salesforce",
            "icm:hasExpectation": {
                "idan:Delivery_service": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "icm:targetDescription": "cat:EventWirelessAccess"
                    }
                },
                "idan:Delivery_app": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:target": "_:application",
                    "icm:params": {
                        "icm:targetDescription": "cat:StreamingApplication"
                    }
                },
                "idan:Property_service": {
                    "@type": "icm:PropertyExpectation",
                    "icm:target": "_:service",
                    "icm:params": {
                        "elb:serviceQuality": [
                            {
                                "icm:value": "4KUHD"
                            }
                        ],
                        "elb:numberOfParticipants": [

```

```
{
    "icm:atMost": "200"
}
],
"elb:areaOfService": [
{
    "geo:geographicPoints": [
        {
            "geo:longitude": 90,
            "geo:latitude": 44,
            "geo:altitude": 84
        },
        {
            "geo:longitude": 84,
            "geo:latitude": -12,
            "geo:altitude": 24
        },
        {
            "geo:longitude": 131,
            "geo:latitude": -36,
            "geo:altitude": 29
        },
        {
            "geo:longitude": 7,
            "geo:latitude": 81,
            "geo:altitude": -42
        }
    ]
}
],
"idan:Property_app": {
    "@type": "icm:PropertyExpectation",
    "icm:target": "_:application",
    "icm:params": {
        "app:appType": [
            {
                "icm:value": "AWS MediaLive"
            },
            {
                "icm:value": "Facebook Live"
            },
            {
                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ]
    }
},
```

```

        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
}
}
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
}

```

Here is an example of patching an intent (Json patch format with application/json-patch+json content type). In this example, a new validity period and description set.

Request

```

PATCH /intent/20011
Content-Type: application/json-patch+json

[
{
    "op": "replace",
    "path": "/description",
    "value": "An intent resource update example"
},
{
    "op": "replace",
    "path": "/validFor/startDateTime",
    "value": "2023-12-12T16:40:0.000Z"
}
]

```

Response

```

200
{
    "id": "20011",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
    "creationDate": "2023-10-23T00:30:00.00Z",
    "description": "An intent resource update example",
    "validFor": {
        "endDateTime": "2024-09-12T16:40:00.000Z",
        "startDateTime": "2023-12-12T16:40:00.000Z"
    },
    "name": "EventLiveBroadcast",
    "lastUpdate": "2023-10-23T00:30:00.00Z",
    "lifecycleStatus": "Created",
    "statusChangeDate": "2023-10-23T00:30:00.00Z",
    "version": "1.0",
    "priority": "1",
    "isBundled": false,
    "context": "Autonomous services",
}

```

```

    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "characteristic": [
        {
            "id": "19997-pn",
            "name": "isTimeConstrained",
            "value": true,
            "valueType": "boolean",
            "@type": "BooleanCharacteristic"
        }
    ],
    "relatedParty": [
        {
            "role": "user",
            "partyOrPartyRole": {
                "href": "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/456",
                "id": "19993",
                "name": "Marcus Aurelius",
                "@type": "PartyRef",
                "@referredType": "Individual"
            },
            "@type": "RelatedPartyRefOrPartyRoleRef"
        }
    ],
    "expression": {
        "@type": "JsonLdExpression",
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
        "expressionValue": {
            "@context": {
                "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
                "cat": "http://www.operator.com/Catalog#",
                "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
                "xsd": "http://www.w3.org/2001/XMLSchema#",
                "t": "http://www.w3.org/2006/time#",
                "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
                "app": "http://www.operator.com/Catalog/StreamingApplication#",
                "geo": "https://tmforum.org/2020/07/geographicPoint#"
            },
            "idan:EventLiveBroadcast000001": {
                "@type": "icm:Intent",
                "icm:intentOwner": "idan:Salesforce",
                "icm:hasExpectation": {
                    "idan:Delivery_service": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:service",
                        "icm:params": {
                            "icm:targetDescription": "cat:EventWirelessAccess"
                        }
                    },
                    "idan:Delivery_app": {
                        "@type": "icm:DeliveryExpectation",
                        "icm:target": "_:application",
                        "icm:params": {
                            "icm:targetDescription": "cat:StreamingApplication"
                        }
                    }
                }
            }
        }
    }
}

```

```
        },
        "idan:Property_service": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "elb:serviceQuality": [
                    {
                        "icm:value": "4KUHD"
                    }
                ],
                "elb:numberOfParticipants": [
                    {
                        "icm:atMost": "200"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ]
            }
        },
        "idan:Property_app": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "app:appType": [
                    {
                        "icm:value": "AWS MediaLive"
                    },
                    {
                        "icm:value": "Facebook Live"
                    },
                    {
                        "icm:value": "YouTube"
                    }
                ]
            }
        },
        "idan:Reporting": {
            "@type": "icm:ReportingExpectation",
            "icm:target": "idan:EventLiveBroadcast",
            "icm:params": {
                "elb:participants": [
                    {
                        "icm:atLeast": "100"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ]
            }
        }
    }
}
```

```

        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                },
                "icm:reportingEvent": [
                    "icm:StateComplies",
                    "icm:StateDegrades"
                ]
            }
        }
    },
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
    "@type": "Intent"
}

```

Here is an example of patching an intent (Json patch query format with application/json-patch-query+json content type). In this example, a new validity period and description set.

Request

```

PATCH /intent/20011
Content-Type: application/json-patch-query+json

[
    {
        "op": "replace",
        "path": "/description?version=1.0",
        "value": "An intent resource update example"
    },
    {
        "op": "replace",
        "path": "/validFor/startDateTime",
        "value": "2023-12-12T16:40:0.000Z"
    }
]

```

Response

```

200

{
    "id": "20011",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20011",
    "creationDate": "2023-10-23T00:30:00.00Z",
    "description": "An intent resource update example",
    "validFor": {

```

```
"endDateTime": "2024-09-12T16:40:00.000Z",
"startDateTime": "2023-12-12T16:40:00.000Z"
},
"name": "EventLiveBroadcast",
"lastUpdate": "2023-10-23T00:30:00.00Z",
"lifecycleStatus": "Created",
"statusChangeDate": "2023-10-23T00:30:00.00Z",
"version": "1.0",
"priority": "1",
"isBundled": false,
"context": "Autonomous services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"characteristic": [
    {
        "id": "19997-pn",
        "name": "isTimeConstrained",
        "value": true,
        "valueType": "boolean",
        "@type": "BooleanCharacteristic"
    }
],
"relatedParty": [
    {
        "role": "user",
        "partyOrPartyRole": {
            "href": "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/456",
            "id": "19993",
            "name": "Marcus Aurelius",
            "@type": "PartyRef",
            "@referredType": "Individual"
        },
        "@type": "RelatedPartyRefOrPartyRoleRef"
    }
],
"expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
        "@context": {
            "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
            "cat": "http://www.operator.com/Catalog#",
            "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
            "xsd": "http://www.w3.org/2001/XMLSchema#",
            "t": "http://www.w3.org/2006/time#",
            "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
            "app": "http://www.operator.com/Catalog/StreamingApplication#",
            "geo": "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001": {
            "@type": "icm:Intent",
            "icm:intentOwner": "idan:Salesforce",
            "icm:hasExpectation": {
                "idan:Delivery_service": {
                    "@type": "icm:DeliveryExpectation",
                    "icm:expectationType": "Delivery"
                }
            }
        }
    }
}
```

```
        "icm:target": "_:service",
        "icm:params": {
            "icm:targetDescription": "cat:EventWirelessAccess"
        }
    },
    "idan:Delivery_app": {
        "@type": "icm:DeliveryExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "icm:targetDescription": "cat:StreamingApplication"
        }
    },
    "idan:Property_service": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "elb:serviceQuality": [
                {
                    "icm:value": "4KUHD"
                }
            ],
            "elb:numberOfParticipants": [
                {
                    "icm:atMost": "200"
                }
            ],
            "elb:areaOfService": [
                {
                    "geo:geographicPoints": [
                        {
                            "geo:longitude": 90,
                            "geo:latitude": 44,
                            "geo:altitude": 84
                        },
                        {
                            "geo:longitude": 84,
                            "geo:latitude": -12,
                            "geo:altitude": 24
                        },
                        {
                            "geo:longitude": 131,
                            "geo:latitude": -36,
                            "geo:altitude": 29
                        },
                        {
                            "geo:longitude": 7,
                            "geo:latitude": 81,
                            "geo:altitude": -42
                        }
                    ]
                }
            ]
        }
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                }
            ]
        }
    }
}
```

```

        "icm:value": "Facebook Live"
    },
    {
        "icm:value": "YouTube"
    }
]
}
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
},
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/Intent.schema.json",
"@type": "Intent"
}

```

Here is an example of patching a ProbeIntent resource(Patch merge format with application/json content type). In this example, a new validity period and description set.

Request

```

PATCH /intent/20071
Content-Type: application/json

{
    "description": "A ProbeIntent resource update example",
    "validFor": {
        "endDateTime": "2026-04-30T16:40:00.000Z",
        "startDateTime": "2024-04-30T16:40:00.000Z"
    },
    "@type": "ProbeIntent"
}

```

Response

200

```
{  
    "id": "20071",  
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",  
    "description": "A ProbeIntent resource update example",  
    "name": "probeIntentExample",  
    "lifecycleStatus": "Active",  
    "version": "1.0",  
    "expression": {  
        "@type": "JsonLdExpression",  
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",  
        "expressionValue": {  
            "@context": {  
                "icm":  
                    "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",  
                    "cat": "http://www.operator.com/Catalog#",  
                    "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",  
                    "xsd": "http://www.w3.org/2001/XMLSchema#",  
                    "t": "http://www.w3.org/2006/time#",  
                    "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",  
                    "app": "http://www.operator.com/Catalog/StreamingApplication#",  
                    "geo": "https://tmforum.org/2020/07/geographicPoint#"  
            },  
            "idan:EventLiveBroadcast000001": {  
                "@type": "icm:Intent",  
                "icm:intentOwner": "idan:Salesforce",  
                "icm:hasExpectation": {  
                    "idan:Delivery_service": {  
                        "@type": "icm:DeliveryExpectation",  
                        "icm:target": ":service",  
                        "icm:params": {  
                            "icm:targetDescription": "cat:EventWirelessAccess"  
                        }  
                    },  
                    "idan:Delivery_app": {  
                        "@type": "icm:DeliveryExpectation",  
                        "icm:target": ":application",  
                        "icm:params": {  
                            "icm:targetDescription": "cat:StreamingApplication"  
                        }  
                    },  
                    "idan:Property_service": {  
                        "@type": "icm:PropertyExpectation",  
                        "icm:target": ":service",  
                        "icm:params": {  
                            "elb:serviceQuality": [  
                                {  
                                    "icm:value": "4KUHD"  
                                }  
                            ],  
                            "elb:numberOfParticipants": [  
                                {  
                                    "icm:atMost": "200"  
                                }  
                            ],  
                            "elb:areaOfService": [  
                                {  
                                    "geo:geographicPoints": [  
                                        {  
                                            "geo:longitude": 90,  
                                            "geo:latitude": 44,  
                                            "geo:altitude": 84  
                                        }  
                                    ]  
                                }  
                            ]  
                        }  
                    }  
                }  
            }  
        }  
    }  
}
```

```
        },
        {
            "geo:longitude": 84,
            "geo:latitude": -12,
            "geo:altitude": 24
        },
        {
            "geo:longitude": 131,
            "geo:latitude": -36,
            "geo:altitude": 29
        },
        {
            "geo:longitude": 7,
            "geo:latitude": 81,
            "geo:altitude": -42
        }
    ]
}
},
{
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    },
    "idan:Reporting": {
        "@type": "icm:ReportingExpectation",
        "icm:target": "idan:EventLiveBroadcast",
        "icm:params": {
            "icm:reportingInterval": [
                {
                    "t:Duration": [
                        {
                            "t:numbericDuration": 10,
                            "t:temporalUnit": "unitMinute"
                        }
                    ]
                }
            ],
            "icm:reportingEvent": [
                "icm:StateComplies",
                "icm:StateDegrades"
            ]
        }
    }
},
{
    "validFor": {

```

```

        "endDateTime": "2026-04-30T16:40:00.000Z",
        "startDateTime": "2024-04-30T16:40:00.000Z"
    },
    "isBundle": false,
    "priority": "1",
    "context": "Broadband services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "lastUpdate": "2024-04-30T16:40:01.000Z",
    "@baseType": "Intent",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
    "@type": "ProbeIntent"
}

```

Here is an example of patching a ProbeIntent object (Patch merge format with application/merge-patch+json content type). In this example, a new validity period and description set.

Request

```

PATCH /intent/20071
Content-Type: application/merge-patch+json

{
    "description": "A ProbeIntent resource update example",
    "validFor": {
        "endDateTime": "2026-04-30T16:40:00.000Z",
        "startDateTime": "2024-04-30T16:40:00.000Z"
    },
    "@type": "ProbeIntent"
}

```

Response

```

200

{
    "id": "20071",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
    "description": "A ProbeIntent resource update example",
    "name": "probeIntentExample",
    "lifecycleStatus": "Active",
    "version": "1.0",
    "expression": {
        "@type": "JsonLdExpression",
        "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
        "expressionValue": {
            "@context": {
                "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",

```

```
"cat": "http://www.operator.com/Catalog#",
"idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
"xsd": "http://www.w3.org/2001/XMLSchema#",
"t": "http://www.w3.org/2006/time#",
"elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
"app": "http://www.operator.com/Catalog/StreamingApplication#",
"geo": "https://tmforum.org/2020/07/geographicPoint#"
},
"idan:EventLiveBroadcast000001": {
    "@type": "icm:Intent",
    "icm:intentOwner": "idan:Salesforce",
    "icm:hasExpectation": {
        "idan:Delivery_service": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "icm:targetDescription": "cat:EventWirelessAccess"
            }
        },
        "idan:Delivery_app": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:application",
            "icm:params": {
                "icm:targetDescription": "cat:StreamingApplication"
            }
        },
        "idan:Property_service": {
            "@type": "icm:PropertyExpectation",
            "icm:target": "_:service",
            "icm:params": {
                "elb:serviceQuality": [
                    {
                        "icm:value": "4KUHD"
                    }
                ],
                "elb:numberOfParticipants": [
                    {
                        "icm:atMost": "200"
                    }
                ],
                "elb:areaOfService": [
                    {
                        "geo:geographicPoints": [
                            {
                                "geo:longitude": 90,
                                "geo:latitude": 44,
                                "geo:altitude": 84
                            },
                            {
                                "geo:longitude": 84,
                                "geo:latitude": -12,
                                "geo:altitude": 24
                            },
                            {
                                "geo:longitude": 131,
                                "geo:latitude": -36,
                                "geo:altitude": 29
                            },
                            {
                                "geo:longitude": 7,
                                "geo:latitude": 81,
                                "geo:altitude": -42
                            }
                        ]
                    }
                ]
            }
        }
    }
}
```

```
        }
    ]
}
},
"idan:Property_app": {
    "@type": "icm:PropertyExpectation",
    "icm:target": "_:application",
    "icm:params": {
        "app:appType": [
            {
                "icm:value": "AWS MediaLive"
            },
            {
                "icm:value": "Facebook Live"
            },
            {
                "icm:value": "YouTube"
            }
        ]
    }
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
},
"validFor": {
    "endDateTime": "2026-04-30T16:40:00.000Z",
    "startDateTime": "2024-04-30T16:40:00.000Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2024-04-30T16:40:01.000Z",
```

```

    "@baseType": "Intent",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
    "@type": "ProbeIntent"
}

```

Here is an example of patching a ProbeIntent object (Json patch format with application/json-patch+json content type). In this example, a new validity period and description set.

Request

```

PATCH /intent/20071
Content-Type: application/json-patch+json

[
  {
    "op": "replace",
    "path": "/description",
    "value": "A ProbeIntent resource update example"
  },
  {
    "op": "replace",
    "path": "/validFor/startDateTime",
    "value": "2024-04-30T16:40:00.000Z"
  }
]

```

Response

```

200

{
  "id": "20071",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
  "description": "A ProbeIntent resource update example",
  "name": "probeIntentExample",
  "lifecycleStatus": "Active",
  "version": "1.0",
  "expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
      "@context": {
        "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
        "cat": "http://www.operator.com/Catalog#",
        "idan": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
        "xsd": "http://www.w3.org/2001/XMLSchema#",
        "t": "http://www.w3.org/2006/time#",
        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
        "app": "http://www.operator.com/Catalog/StreamingApplication#",
        "geo": "https://tmforum.org/2020/07/geographicPoint#"
      },
      "idan:EventLiveBroadcast000001": {
        "@type": "icm:Intent",
        "label": "EventLiveBroadcast000001"
      }
    }
  }
}

```

```
"icm:intentOwner": "idan:Salesforce",
"icm:hasExpectation": {
    "idan:Delivery_service": {
        "@type": "icm:DeliveryExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "icm:targetDescription": "cat:EventWirelessAccess"
        }
    },
    "idan:Delivery_app": {
        "@type": "icm:DeliveryExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "icm:targetDescription": "cat:StreamingApplication"
        }
    },
    "idan:Property_service": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "elb:serviceQuality": [
                {
                    "icm:value": "4KUHD"
                }
            ],
            "elb:numberOfParticipants": [
                {
                    "icm:atMost": "200"
                }
            ],
            "elb:areaOfService": [
                {
                    "geo:geographicPoints": [
                        {
                            "geo:longitude": 90,
                            "geo:latitude": 44,
                            "geo:altitude": 84
                        },
                        {
                            "geo:longitude": 84,
                            "geo:latitude": -12,
                            "geo:altitude": 24
                        },
                        {
                            "geo:longitude": 131,
                            "geo:latitude": -36,
                            "geo:altitude": 29
                        },
                        {
                            "geo:longitude": 7,
                            "geo:latitude": 81,
                            "geo:altitude": -42
                        }
                    ]
                }
            ]
        }
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [

```

```

        {
            "icm:value": "AWS MediaLive"
        },
        {
            "icm:value": "Facebook Live"
        },
        {
            "icm:value": "YouTube"
        }
    ]
}
},
"idan:Reporting": {
    "@type": "icm:ReportingExpectation",
    "icm:target": "idan:EventLiveBroadcast",
    "icm:params": {
        "icm:reportingInterval": [
            {
                "t:Duration": [
                    {
                        "t:numbericDuration": 10,
                        "t:temporalUnit": "unitMinute"
                    }
                ]
            }
        ],
        "icm:reportingEvent": [
            "icm:StateComplies",
            "icm:StateDegrades"
        ]
    }
}
},
"validFor": {
    "endDateTime": "2026-04-30T16:40:00.000Z",
    "startDateTime": "2024-04-30T16:40:00.000Z"
},
"isBundle": false,
"priority": "1",
"context": "Broadband services",
"intentSpecification": {
    "@type": "IntentSpecificationRef",
    "id": "EventLiveBroadcast_IntentSpec",
    "name": "EventLiveBroadcastIntentSpec",
    "@referredType": "IntentSpecification",
    "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
},
"lastUpdate": "2024-04-30T16:40:01.000Z",
"@baseType": "Intent",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
"@type": "ProbeIntent"
}
}

```

Here is an example of patching a ProbeIntent object (Json patch query format with application/json-patch-query+json content type). In this example, a new validity period and description set.

Request

```
PATCH /intent/20071
Content-Type: application/json-patch+json

[
  {
    "op": "replace",
    "path": "/description?version=1.0",
    "value": "A ProbeIntent resource update example"
  },
  {
    "op": "replace",
    "path": "/validFor/startDateTime",
    "value": "2024-04-30T16:40:00.000Z"
  }
]
```

Response

```
200

{
  "id": "20071",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/20071",
  "description": "A ProbeIntent resource update example",
  "name": "probeIntentExample",
  "lifecycleStatus": "Active",
  "version": "1.0",
  "expression": {
    "@type": "JsonLdExpression",
    "iri": "https://mycsp.com:8080/tmf-api/rdfs/expression-example-1",
    "expressionValue": {
      "@context": {
        "icm": "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
        "cat": "http://www.operator.com/Catalog#",
        "idan": "http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#",
        "xsd": "http://www.w3.org/2001/XMLSchema#",
        "t": "http://www.w3.org/2006/time#",
        "elb": "http://www.operator.com/Catalog/EventWirelessAccess#",
        "app": "http://www.operator.com/Catalog/StreamingApplication#",
        "geo": "https://tmforum.org/2020/07/geographicPoint#"
      },
      "idan:EventLiveBroadcast000001": {
        "@type": "icm:Intent",
        "icm:intentOwner": "idan:Salesforce",
        "icm:hasExpectation": {
          "idan:Delivery_service": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:service",
            "icm:params": {
              "icm:targetDescription": "cat:EventWirelessAccess"
            }
          },
          "idan:Delivery_app": {
            "@type": "icm:DeliveryExpectation",
            "icm:target": "_:application",
            "icm:params": {
              "icm:targetDescription": "cat:StreamingApplication"
            }
          }
        }
      }
    }
  }
}
```

```
        "icm:params": {
            "icm:targetDescription": "cat:StreamingApplication"
        }
    },
    "idan:Property_service": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:service",
        "icm:params": {
            "elb:serviceQuality": [
                {
                    "icm:value": "4KUHD"
                }
            ],
            "elb:numberOfParticipants": [
                {
                    "icm:atMost": "200"
                }
            ],
            "elb:areaOfService": [
                {
                    "geo:geographicPoints": [
                        {
                            "geo:longitude": 90,
                            "geo:latitude": 44,
                            "geo:altitude": 84
                        },
                        {
                            "geo:longitude": 84,
                            "geo:latitude": -12,
                            "geo:altitude": 24
                        },
                        {
                            "geo:longitude": 131,
                            "geo:latitude": -36,
                            "geo:altitude": 29
                        },
                        {
                            "geo:longitude": 7,
                            "geo:latitude": 81,
                            "geo:altitude": -42
                        }
                    ]
                }
            ]
        }
    },
    "idan:Property_app": {
        "@type": "icm:PropertyExpectation",
        "icm:target": "_:application",
        "icm:params": {
            "app:appType": [
                {
                    "icm:value": "AWS MediaLive"
                },
                {
                    "icm:value": "Facebook Live"
                },
                {
                    "icm:value": "YouTube"
                }
            ]
        }
    }
},
```

```

        "idan:Reporting": {
            "@type": "icm:ReportingExpectation",
            "icm:target": "idan:EventLiveBroadcast",
            "icm:params": {
                "icm:reportingInterval": [
                    {
                        "t:Duration": [
                            {
                                "t:numbericDuration": 10,
                                "t:temporalUnit": "unitMinute"
                            }
                        ]
                    }
                ],
                "icm:reportingEvent": [
                    "icm:StateComplies",
                    "icm:StateDegrades"
                ]
            }
        }
    },
    "validFor": {
        "endDateTime": "2026-04-30T16:40:00.000Z",
        "startDateTime": "2024-04-30T16:40:00.000Z"
    },
    "isBundle": false,
    "priority": "1",
    "context": "Broadband services",
    "intentSpecification": {
        "@type": "IntentSpecificationRef",
        "id": "EventLiveBroadcast_IntentSpec",
        "name": "EventLiveBroadcastIntentSpec",
        "@referredType": "IntentSpecification",
        "@href": "https://mycsp.com:8080/tmf-
api/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "lastUpdate": "2024-04-30T16:40:01.000Z",
    "@baseType": "Intent",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ProbeIntent.schema.json",
        "@type": "ProbeIntent"
    }
}

```

Deletes a Intent

DELETE /intent/{id}

Description

This operation deletes an Intent entity.

Usage samples

Here is an example of deleting an intent.

Request

```
DELETE /intent/20011
Content-Type: application/json
```

Response

```
204
```

Deletes a IntentReport

DELETE /intent/{intentId}/intentReport/{id}

Description

This operation deletes an Intent entity.

Usage samples

Here is an example of deleting an intent.

Request

```
DELETE /intent/20011/intentReport/20011
Content-Type: application/json
```

Response

```
204
```

Operations on IntentSpecification

List or find IntentSpecification objects

GET /intentSpecification?fields=...

Description

This operation list IntentSpecification entities. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving multiple IntentSpecification objects

Request

```
GET /intentSpecification?lifecycleStatus=Active
```

```
Content-Type: application/json
```

Response

```
200
[
  {
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
    "id": "65537",
    "description": "Intent spec for ordering live broadcast service for an event",
    "lastUpdate": "2023-08-08T08:34:16.785Z",
    "lifecycleStatus": "ACTIVE",
    "validFor": [
      "startDateTime": "2023-04-12T23:20:50.52Z",
      "endDateTime": "2099-04-12T23:20:50.52Z"
    ],
    "version": "1.0",
    "relatedParty": [
      {
        "@type": "RelatedPartyRefOrPartyRoleRef",
        "role": "Provider",
        "partyOrPartyRole": {
          "@type": "PartyRoleRef",
          "id": "28657",
          "name": "TechSolutionsPro Ltd",
          "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
          "@referredType": "Partner"
        }
      },
      {
        "name": "EventLiveBroadcastSpec",
        "expressionSpecification": {
          "@type": "ExpressionSpecification",
          "expressionLanguage": "JSON-LD",
          "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
        }
      }
    ]
  }
]
```

Retrieves a IntentSpecification by ID

GET /intentSpecification/{id}?fields=...

Description

This operation retrieves an IntentSpecification entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving a specific IntentSpecification object.

Request

```
GET /intentSpecification/65537
Content-Type: application/json
```

Response

```
200

{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
    "id": "65537",
    "description": "Intent spec for ordering live broadcast service for an event",
    "lastUpdate": "2023-08-08T08:34:16.785Z",
    "lifecycleStatus": "ACTIVE",
    "validFor": {
        "startDateTime": "2023-04-12T23:20:50.52Z",
        "endDateTime": "2099-04-12T23:20:50.52Z"
    },
    "version": "1.0",
    "relatedParty": [
        {
            "@type": "RelatedPartyRefOrPartyRoleRef",
            "role": "Provider",
            "partyOrPartyRole": {
                "@type": "PartyRoleRef",
                "id": "28657",
                "name": "TechSolutionsPro Ltd",
                "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
                "@referredType": "Partner"
            }
        },
        {
            "name": "EventLiveBroadcastSpec",
            "expressionSpecification": {
                "@type": "ExpressionSpecification",
                "expressionLanguage": "JSON-LD",
                "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagmentOntology/"
            }
        }
    ]
}
```

Creates a IntentSpecification

POST /intentSpecification?fields=...

Description

This operation creates an IntentSpecification entity.

Mandatory Attributes

| Mandatory Attributes | Rule |
|----------------------|------|
| name | |
| @type | |

Usage samples

Here's an example of a request for creating an IntentSpecification object.

Request

```
POST /intentSpecification
Content-Type: application/json

{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
    "id": "EventLiveBroadcast_Spec",
    "description": "Intent spec for ordering live broadcast service for an event",
    "lifecycleStatus": "ACTIVE",
    "validFor": {
        "startDateTime": "2023-04-12T23:20:50.52Z",
        "endDateTime": "2099-04-12T23:20:50.52Z"
    },
    "version": "1.0",
    "relatedParty": [
        {
            "@type": "RelatedPartyRefOrPartyRoleRef",
            "role": "Provider",
            "partyOrPartyRole": {
                "@type": "PartyRoleRef",
                "id": "28657",
                "name": "TechSolutionsPro Ltd",
                "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
                "@referredType": "Partner"
            }
        },
        {
            "name": "EventLiveBroadcastSpec",
            "expressionSpecification": {
                "@type": "ExpressionSpecification",
                "expressionLanguage": "JSON-LD",
                "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
            }
        }
    ]
}
```

Response

```
201

{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
```

```

    "id": "65537",
    "description": "Intent spec for ordering live broadcast service for an event",
    "lastUpdate": "2023-08-08T08:34:16.785Z",
    "lifecycleStatus": "ACTIVE",
    "validFor": {
        "startDateTime": "2023-04-12T23:20:50.52Z",
        "endDateTime": "2099-04-12T23:20:50.52Z"
    },
    "version": "1.0",
    "relatedParty": [
        {
            "@type": "RelatedPartyRefOrPartyRoleRef",
            "role": "Provider",
            "partyOrPartyRole": {
                "@type": "PartyRoleRef",
                "id": "28657",
                "name": "TechSolutionsPro Ltd",
                "href": "https://mycsp.com:8080//tmf-api/partnerManagement/v5/partner/28657",
                "@referredType": "Partner"
            }
        },
        {
            "name": "EventLiveBroadcastSpec",
            "expressionSpecification": {
                "@type": "ExpressionSpecification",
                "expressionLanguage": "JSON-LD",
                "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
            }
        }
    ]
}

```

Updates partially a IntentSpecification

PATCH /intentSpecification/{id}?fields=...

Description

This operation allows partial updates of an IntentSpecification entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optional. Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

| Non Patchable Attributes | Rule |
|--------------------------|------------------------------|
| href | |
| id | |
| lastUpdate | |
| @baseType | @baseType is immutable |
| @schemaLocation | @schemaLocation is immutable |
| @type | @type is immutable |

| Patchable Attributes | Rule |
|-------------------------|------|
| attachment | |
| constraint | |
| description | |
| entitySpecRelationship | |
| expressionSpecification | |
| intentSpecRelationship | |
| isBundle | |
| lifecycleStatus | |
| name | |
| relatedParty | |
| specCharacteristic | |
| targetEntitySchema | |
| validFor | |
| version | |

Usage samples

Here is an example of patching an intent specification (Patch merge format with application/json content type). In this example, a new validity period, version and description set.

Request

```
PATCH /intentSpecification/65537
Content-Type: application/json

{
    "description": "updated Intent specification description",
    "validFor": {
        "startDateTime": "2023-09-12T08:37:43.59Z",
        "endDateTime": "2099-09-12T08:37:43.59Z"
    },
    "version": "2.0",
    "@type": "IntentSpecification"
}
```

Response

```
200
{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
    "https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
```

```

    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
    "id": "65537",
    "description": "updated Intent specification description",
    "lastUpdate": "2023-09-12T08:37:43.59Z",
    "lifecycleStatus": "ACTIVE",
    "validFor": {
        "startDateTime": "2023-09-12T08:37:43.59Z",
        "endDateTime": "2099-09-12T08:37:43.59Z"
    },
    "version": "2.0",
    "relatedParty": [
        {
            "@type": "RelatedPartyRefOrPartyRoleRef",
            "role": "Provider",
            "partyOrPartyRole": {
                "@type": "PartyRoleRef",
                "id": "28657",
                "name": "TechSolutionsPro Ltd",
                "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
                "@referredType": "Partner"
            }
        },
        {
            "name": "EventLiveBroadcastSpec",
            "expressionSpecification": {
                "@type": "ExpressionSpecification",
                "expressionLanguage": "JSON-LD",
                "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
            }
        }
    ]
}

```

Here is an example of patching an intent specification (Patch merge format with application/merge-patch+json content type). In this example, a new validity period, version and description set.

Request

```

PATCH /intentSpecification/65537
Content-Type: application/merge-patch+json

{
    "description": "updated Intent specification description",
    "validFor": {
        "startDateTime": "2023-09-12T08:37:43.59Z",
        "endDateTime": "2099-09-12T08:37:43.59Z"
    },
    "version": "2.0",
    "@type": "IntentSpecification"
}

```

Response

```

200

{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":

```

```

"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
  "id": "65537",
  "description": "updated Intent specification description",
  "lastUpdate": "2023-09-12T08:37:43.59Z",
  "lifecycleStatus": "ACTIVE",
  "validFor": {
    "startDateTime": "2023-09-12T08:37:43.59Z",
    "endDateTime": "2099-09-12T08:37:43.59Z"
  },
  "version": "2.0",
  "relatedParty": [
    {
      "@type": "RelatedPartyRefOrPartyRoleRef",
      "role": "Provider",
      "partyOrPartyRole": {
        "@type": "PartyRoleRef",
        "id": "28657",
        "name": "TechSolutionsPro Ltd",
        "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
        "@referredType": "Partner"
      }
    },
    {
      "name": "EventLiveBroadcastSpec",
      "expressionSpecification": {
        "@type": "ExpressionSpecification",
        "expressionLanguage": "JSON-LD",
        "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagmentOntology/"
      }
    }
  ]
}

```

Here is an example of patching an intent specification(Json patch format with application/json-patch+json content type). In this example, a new validity period, version and description set.

Request

```

PATCH /intentSpecification/65537
Content-Type: application/json-patch+json

[
  {
    "op": "replace",
    "path": "/description",
    "value": "updated Intent specification description"
  },
  {
    "op": "replace",
    "path": "/version",
    "value": "2.0"
  },
  {
    "op": "replace",
    "path": "/validFor/startDateTime",
    "value": "2023-09-12T08:37:43.59Z"
  }
]

```

Response

```

200

{
    "@type": "IntentSpecification",
    "@baseType": "EntitySpecification",
    "@schemaLocation":
"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
    "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
    "id": "65537",
    "description": "updated Intent specification description",
    "lastUpdate": "2023-09-12T08:37:43.59Z",
    "lifecycleStatus": "ACTIVE",
    "validFor": {
        "startDateTime": "2023-09-12T08:37:43.59Z",
        "endDateTime": "2099-09-12T08:37:43.59Z"
    },
    "version": "2.0",
    "relatedParty": [ {
        "@type": "RelatedPartyRefOrPartyRoleRef",
        "role": "Provider",
        "partyOrPartyRole": {
            "@type": "PartyRoleRef",
            "id": "28657",
            "name": "TechSolutionsPro Ltd",
            "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
            "@referredType": "Partner"
        }
    ],
    "name": "EventLiveBroadcastSpec",
    "expressionSpecification": {
        "@type": "ExpressionSpecification",
        "expressionLanguage": "JSON-LD",
        "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
    }
}

```

Here is an example of patching an intent specification (Json patch query format with application/json-patch-query+json content type). In this example, a new validity period, version and description set.

Request

```

PATCH /intentSpecification/65537
Content-Type: application/json-patch-query+json

[
    {
        "op": "replace",
        "path": "/description",
        "value": "updated Intent specification description"
    },
    {
        "op": "replace",
        "path": "/version?version=1.0",
        "value": "2.0"
    }
]

```

```

        },
        {
          "op": "replace",
          "path": "/validFor/startDateTime",
          "value": "2023-09-12T08:37:43.59Z"
        }
      ]
    }
  }
}

```

Response

```

200

{
  "@type": "IntentSpecification",
  "@baseType": "EntitySpecification",
  "@schemaLocation":
"https://mycsp.com:8080/tmfapi/schema/Common/IntentSpecification.schema.json",
  "href": "https://mycsp.com:8080//tmf-api/intentManagement/v5/intent/65537",
  "id": "65537",
  "description": "updated Intent specification description",
  "lastUpdate": "2023-09-12T08:37:43.59Z",
  "lifecycleStatus": "ACTIVE",
  "validFor": {
    "startDateTime": "2023-09-12T08:37:43.59Z",
    "endDateTime": "2099-09-12T08:37:43.59Z"
  },
  "version": "2.0",
  "relatedParty": [ {
    "@type": "RelatedPartyRefOrPartyRoleRef",
    "role": "Provider",
    "partyOrPartyRole": {
      "@type": "PartyRoleRef",
      "id": "28657",
      "name": "TechSolutionsPro Ltd",
      "href": "https://mycsp.com:8080//tmf-
api/partyRoleManagement/v5/partner/28657",
      "@referredType": "Partner"
    }
  }],
  "name": "EventLiveBroadcastSpec",
  "expressionSpecification": {
    "@type": "ExpressionSpecification",
    "expressionLanguage": "JSON-LD",
    "iri": "http://tio.models.tmforum.org/tio/v3.4.0/IntentManagementOntology/"
  }
}

```

Deletes a IntentSpecification

DELETE /intentSpecification/{id}

Description

This operation deletes an IntentSpecification entity.

Usage samples

Here is an example of deleting an intent specification.

Request

```
DELETE /intentSpecification/65537
Content-Type: application/json
```

Response

```
204
```

API NOTIFICATIONS

For every single of operation on the entities use the following templates and provide sample REST notification POST calls.

It is assumed that the Pub/Sub uses the Register and UnRegister mechanisms described in the REST Guidelines reproduced below.

Register listener

POST /hub

Description

Sets the communication endpoint address the service instance must use to deliver information about its health state, execution state, failures and metrics. Subsequent POST calls will be rejected by the service if it does not support multiple listeners. In this case DELETE /api/hub/{id} must be called before an endpoint can be created again.

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 409 if request is not successful.

Usage Samples

Here's an example of a request for registering a listener.

Request

```
POST /api/hub
Accept: application/json
{
  "callback": "http://in.listener.com"
}
```

Response

```
201
Content-Type: application/json
Location: /api/hub/42
{
  "id": "42",
  "callback": "http://in.listener.com",
  "query": ""
}
```

Unregister listener

DELETE /hub/{id}

Description

Clears the communication endpoint address that was set by creating the Hub..

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 404 if the resource is not found.

Usage Samples

Here's an example of a request for un-registering a listener.

Request

```
DELETE /api/hub/42  
Accept: application/json
```

Response

```
204
```

Publish Event to listener

POST /client/listener

Description

Clears the communication endpoint address that was set by creating the Hub.

Provides to a registered listener the description of the event that was raised. The /client/listener url is the callback url passed when registering the listener.

Behavior

Returns HTTP/1.1 status code 201 if the service is able to set the configuration.

Usage Samples

Here's an example of a notification received by the listener. In this example "EVENT TYPE" should be replaced by one of the notification types supported by this API (see Notification resources Models section) and EVENT BODY refers to the data structure of the given notification type.

Request

```
POST /client/listener

Accept: application/json

{
    "event": {
        EVENT BODY
    },
    "eventType": "EVENT_TYPE"
}
```

Response

```
201
```

For detailed examples on the general TM Forum notification mechanism, see the TMF REST Design Guidelines (TMF630 or TMF763).

Intent Expression Examples

JSON-LD Intent ExpressionValue

This example illustrates the formation of the “expressionValue” string using expressionLanguage of “JSON-LD” that would be passed into an Intent POST operation. This example represents an intent expression for ordering connectivity using 5G slice. Please refer to TR290 (<https://www.tmforum.org/resources/standard/intent-common-model-v3-4-0-tr290/>) for common intent information model and “GSMA Generic Network Slice Template” (<https://www.gsma.com/newsroom/wp-content/uploads/NG.116-v8.0-1.pdf>) for 5G slice parameters used in this example.

```
[  
  {  
    "@id": "_:b0"  
  },  
  {  
    "@id": "_:b1",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": [  
      {  
        "@value": "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"  
      }  
    ]  
  },  
  {  
    "@id": "_:b2",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": [  
      {  
        "@value": "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"  
      }  
    ]  
  },  
  {  
    "@id": "_:b3",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": [  
      {  
        "@value": "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"  
      }  
    ]  
  },  
  {  
    "@id": "_:b4",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#atMost": [  
      {  
        "@value": "'12 ms'"  
      }  
    ]  
  },  
  {  
    "@id": "_:b5",  
    "@type": [  
      "http://www.w3.org/2006/time#Duration"  
    ],  
    "http://www.w3.org/2006/time#numericDuration": [  
      {  
        "@value": "'10'"  
      }  
    ]  
  },  
]
```

```
"http://www.w3.org/2006/time#temporalUnit": [
    {
        "@id": "http://www.w3.org/2006/time#unitMinute"
    }
]
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#DeliveryExpectation"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#DeliveryParam"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#HandlingEnded"
},
{
    "@id": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#Intent"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#IntentRejected"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyExpectation"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingExpectation"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingIntervalExpired"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingParam"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateComplies"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateDegrades"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#UpdateFinished"
},
{
    "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#UpdateRejected"
},
```

```
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#IntentManagerXYZ_S"
    },
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_delivery",
        "@type": [
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#DeliveryExpectation"
        ],
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#target": [
            {
                "@id": "_:b0"
            }
        ],
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#params": [
            {
                "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_delivery_Param_type"
            }
        ]
    },
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_delivery_Param_type",
        "@type": [
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#DeliveryParam"
        ],
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#targetDescription": [
            {
                "@id": "http://www.operator.com/Catalog#Slice_NEST_eMBB"
            }
        ]
    },
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property",
        "@type": [
            "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyExpectation"
        ],
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#target": [
            {
                "@id": "_:b0"
            }
        ],
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#params": [
            {
                "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_nssiId"
            },
            {
                "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_nssiName"
            },
            {
                "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_nsId"
            },
            {
                "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_latency"
            }
        ]
    }
]
```

```
        },
        {
          "@value": "",
          "@type": "http://www.w3.org/2001/XMLSchema#integer"
        }
      ]
    },
    {
      "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_latency",
      "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams"
      ],
      "http://www.sdo2.org/TelecomMetrics/Version_1.0#latency": [
        {
          "@id": "_:b4"
        }
      ]
    },
    {
      "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_nsiId",
      "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams"
      ],
      "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#nsiId": [
        {
          "@id": "_:b3"
        }
      ]
    },
    {
      "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_nssiId",
      "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams"
      ],
      "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#nssiId": [
        {
          "@id": "_:b1"
        }
      ]
    },
    {
      "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property_Param_nssiName",
      "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams"
      ],
      "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#nssiName": [
        {
          "@id": "_:b2"
        }
      ]
    },
    {
      "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_reporting",
      "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingExpectation"
      ],
    }
```

```
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#target": [
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#R1_PSE_Res_Slice_Intent1"
    }
],
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#params": [
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_reporting_Param_interval"
    },
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_reporting_Param_event"
    }
],
{
    "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_reporting_Param_event",
    "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingParam"
    ],
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportingEvent": [
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingIntervalExpired"
        },
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#IntentRejected"
        },
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateComplies"
        },
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateDegrades"
        },
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#HandlingEnded"
        },
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#UpdateRejected"
        },
        {
            "@id":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#UpdateFinished"
        }
    ],
    {
        "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_reporting_Param_interval"
    },
    "@type": [
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingParam"
    ],

```

```
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportingInterval": [
  {
    "@id": "_:b5"
  }
],
},
{
  "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#R1_PSE_Res_Slice_Intent1",
  "@type": [
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#Intent"
  ],
  "http://www.w3.org/2000/01/rdf-schema#comment": [
    {
      "@value": "'Intent for ordering connectivity via slice'"
    }
  ],
  "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#IntentManagerXYZ_S"
},
],
"http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#layer": [
  {
    "@value": "'resource'"
  }
],
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#hasExpectation": [
  {
    "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_delivery"
  },
  {
    "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_property"
  },
  {
    "@id": "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#PSE_Exp_R1Slice_reporting"
  }
],
},
{
  "@id": "http://www.operator.com/Catalog#Slice_NEST_eMBB"
},
{
  "@id": "http://www.w3.org/2006/time#Duration"
},
{
  "@id": "http://www.w3.org/2006/time#unitMinute"
}
]
```

Turtle Intent ExpressionValue

This example illustrates the formation of the “expressionValue” string using expressionLanguage of “Turtle” that would be passed into an Intent POST operation. This

example represents an intent expression for ordering connectivity using 5G slice. Please refer to TR290 (<https://www.tmforum.org/resources/standard/intent-common-model-v3-4-0-tr290/>) for common intent information model and “GSMA Generic Network Slice Template” (<https://www.gsma.com/newsroom/wp-content/uploads/NG.116-v8.0-1.pdf>) for 5G slice parameters used in this example.

```

@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix icm: <http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .
@prefix imo: <http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .
@prefix pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .
@prefix cat: <http://www.operator.com/Catalog#> .
@prefix spot: <http://www.sdo1.org/Models/DynamicpriceOntology#> .
@prefix met: <http://www.sdo2.org/TelecomMetrics/Version_1.0#> .
@prefix t: <http://www.w3.org/2006/time#> .
@prefix idan: <http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#>
.

@prefix iv: <https://tmforum.org/2021/07/intentValidity#> .
@prefix itv: <https://tmforum.org/2021/07/intentTemporalValidity#> .
@prefix cem: <http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix sli: <http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .

# --- Intent -----
idan:R1_PSE_Res_Slice_Intent1
a icm:Intent ;
  rdfs:comment "'Intent for ordering connectivity via slice'";
  imo:intentOwner idan:IntentManagerXYZ_S;
  cem:layer "'resource'";
  icm:hasExpectation idan:PSE_Exp_R1Slice_delivery,
    idan:PSE_Exp_R1Slice_property,
    idan:PSE_Exp_R1Slice_reporting;

##Delivery Expectation
idan:PSE_Exp_R1Slice_delivery
a icm:DeliveryExpectation ;
  icm:target _:resource_slice ;
  icm:params idan:PSE_Exp_R1Slice_delivery_Param_type;
.

idan:PSE_Exp_R1Slice_delivery_Param_type
a icm:DeliveryParam ;
  icm:targetDescription cat:Slice_NEST_eMBB;
.

##Property Expectation
idan:PSE_Exp_R1Slice_property
a icm:PropertyExpectation ;
  icm:target _:resource_slice ;
  icm:params idan:PSE_Exp_R1Slice_property_Param_nssiId ,
    idan:PSE_Exp_R1Slice_property_Param_nssiName ,
    idan:PSE_Exp_R1Slice_property_Param_nsiId ,
    idan:PSE_Exp_R1Slice_property_Param_latency ;

idan:PSE_Exp_R1Slice_property_Param_nssiId
a icm:PropertyParams ;
  sli:nssiId [ icm:value "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"^^xsd:string ]
;
.

idan:PSE_Exp_R1Slice_property_Param_nssiName

```

```
a icm:PropertyParam ;
  sli:nssiName [ icm:value "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"^^xsd:string ]
] ;

.
.
.
idan:PSE_Exp_R1Slice_property_Param_nsiId
a icm:PropertyParam ;
  sli:nsiId [ icm:value "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"^^xsd:string ]
;

.
.
.
idan:PSE_Exp_R1Slice_property_Param_latency
a icm:PropertyParam ;
  met:latency [ icm:atMost "'12 ms'" ] ;

.

##Reporting Expectation
idan:PSE_Exp_R1Slice_reporting
a icm:ReportingExpectation ;
  icm:target idan:R1_PSE_Res_Slice_Intent1 ;
  icm:params idan:PSE_Exp_R1Slice_reporting_Param_interval,
    idan:PSE_Exp_R1Slice_reporting_Param_event ;

.
.
.
idan:PSE_Exp_R1Slice_reporting_Param_interval
a icm:ReportingParam ;
  icm:reportingInterval [ a t:Duration ;
    t:numericDuration "'10'" ;
    t:temporalUnit t:unitMinute ] .

idan:PSE_Exp_R1Slice_reporting_Param_event
a icm:ReportingParam ;
  icm:reportingEvent icm:ReportingIntervalExpired ,
    icm:IntentRejected ,
    icm:StateComplies ,
    icm:StateDegrades ,
    icm:HandlingEnded ,
    icm:UpdateRejected ,
    icm:UpdateFinished ;

.
```

Intent Report Expression Examples

JSON-LD IntentReport ExpressionValue

This example illustrates the compact formation of the “expressionValue” as an JSON-LD object as part of JsonLdExpression object included in an IntentReport GET response operation. The below example is the ‘compact version’ of JSON-LD adopted from Intent-Driven Autonomous Network (IDAN) catalyst to represent an intent report corresponding to expected 5G slice reporting (Please refer to Intent expression example in this document for reporting expectation). The 5G slice parameters used in this example are addressed in “GSMA Generic Network Slice Template” (<https://www.gsma.com/newsroom/wp-content/uploads/NG.116-v5.0-7.pdf>).

```
{
  "@context": {
    "name": "http://rdf.data-vocabulary.org/#name",
    "ingredient": "http://rdf.data-vocabulary.org/#ingredients",
    "yield": "http://rdf.data-vocabulary.org/#yield",
    "instructions": "http://rdf.data-vocabulary.org/#instructions",
    "step": {
      "@id": "http://rdf.data-vocabulary.org/#step",
      "@type": "xsd:integer"
    },
    "description": "http://rdf.data-vocabulary.org/#description",
    "xsd": "http://www.w3.org/2001/XMLSchema#"
  },
  "@graph": [
    {
      "@id": "_:b0",
      "http://www.w3.org/2006/time#inXSDDateTimeStamp": {
        "@type": "xsd:dateTime",
        "@value": "'2022-12-01T10:30:10+10:00'"
      }
    },
    {
      "@id": "_:b1",
      "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#DeliveryParam",
      "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_delivery_Param_type"
      }
    },
    {
      "@id": "_:b10",
      "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#targetDescription",
      "@id": "http://www.operator.com/Catalog#Slice_NEST_eMBB"
    },
    {
      "@id": "_:b33",
      "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
      "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#ueMobilityLevel": {
        "@id": "_:b33"
      }
    },
    {
      "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope
    }
  ]
}
```

```
rty_Param_ueMobilityLevel"
    }
},
{
    "@id": "_:b11",
    "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#areaTrafficUL": {
        "@id": "_:b34"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_areaTrafficUL"
    }
},
{
    "@id": "_:b12",
    "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#areaTrafficDL": {
        "@id": "_:b36"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_areaTrafficDL"
    }
},
{
    "@id": "_:b13",
    "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#expDataRateUL": {
        "@id": "_:b38"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_expDataRateUL"
    }
},
{
    "@id": "_:b14",
    "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#expDataRateDL": {
        "@id": "_:b40"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id":
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_expDataRateDL"
    }
},
{
    "@id": "_:b15",
    "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#SLA5QI": {
        "@id": "_:b42"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
```

```
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_SLA5QI"  
    }  
},  
{  
    "@id": "_:b16",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",  
        "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#packetErrorRate": {  
            "@id": "_:b43"  
        },  
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_packetErrorRate"  
        }  
},  
{  
    "@id": "_:b17",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",  
        "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#packetSize": {  
            "@id": "_:b44"  
        },  
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_packetSize"  
        }  
},  
{  
    "@id": "_:b18",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",  
        "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#numberofPDUSession": {  
            "@id": "_:b46"  
        },  
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_numberofPDUSession"  
        }  
},  
{  
    "@id": "_:b19",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",  
        "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#latencyFromUFPToApplicationS  
erver": {  
            "@id": "_:b47"  
        },  
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_latencyFromUFPToApplicationServer"  
        }  
},  
{  
    "@id": "_:b2",  
    "@type":
```

```

"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id": "_:b1"
    },
    "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_latency"
},
{
    "@id": "_:b20",
    "@type": "PropertyParam"
},
{
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
        "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#missionCritical": {
            "@id": "_:b48"
        },
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
            "@id": "_:b21"
        }
    },
    {
        "@id": "_:b21",
        "@type": "PropertyParam"
    }
},
{
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
        "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#V2XCommunicationMode": {
            "@id": "_:b49"
        },
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
            "@id": "_:b22"
        }
    },
    {
        "@id": "_:b22",
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'13ms'"
    },
    {
        "@id": "_:b23",
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"
    },
    {
        "@id": "_:b24",
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"
    },
    {
        "@id": "_:b25",
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"
    },
    {
        "@id": "_:b26",
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'6780'"
    },
    {
        "@id": "_:b27",
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'6780'"
    }
}

```

```
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
    "@id": "_:b28"
},
{
    "@id": "_:b28",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitMBPS"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "'67'"
},
{
    "@id": "_:b29",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
        "@id": "_:b30"
    }
},
{
    "@id": "_:b3",
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io irc.huawei.com/Io/v1.0.0/SliceExtensionModel#nssiId": {
        "@id": "_:b23"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_nssiId"
    }
},
{
    "@id": "_:b30",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitMBPS"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "'89123'"
},
{
    "@id": "_:b31",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
        "@id": "_:b32"
    }
},
{
    "@id": "_:b32",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#percentage"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "'99.9945'"
},
{
    "@id": "_:b33",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'10'"
},
{
    "@id": "_:b34",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
        "@id": "_:b35"
    }
},
{
    "@id": "_:b35",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
```

```
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitMBPS"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "'67'"
},
{
    "@id": "_:b36",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
        "@id": "_:b37"
    }
},
{
    "@id": "_:b37",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitMBPS"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "89123"
},
{
    "@id": "_:b38",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
        "@id": "_:b39"
    }
},
{
    "@id": "_:b39",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitMBPS"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "'67'"
},
{
    "@id": "_:b4",
    "@type":
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#nssiName": {
        "@id": "_:b24"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id": "
"http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_nssiName"
    }
},
{
    "@id": "_:b40",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {
        "@id": "_:b41"
    }
},
{
    "@id": "_:b41",
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitMBPS"
    },
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "89123"
},
{
    "@id": "_:b42",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'1'"
},
{
    "@id": "_:b43",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value":
```

```
"'Premium'"  
},  
{  
    "@id": "_:b44",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": {  
        "@id": "_:b45"  
    }  
,  
{  
    "@id": "_:b45",  
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#unit": {  
        "@id": "http://www.sdo2.org/TelecomMetrics/Version_1.0#unitByte"  
    },  
    "http://www.sdo2.org/TelecomMetrics/Version_1.0#value": "'1500'"  
},  
{  
    "@id": "_:b46",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'123'"  
},  
{  
    "@id": "_:b47",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'1 ms'"  
},  
{  
    "@id": "_:b48",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'No'"  
},  
{  
    "@id": "_:b49",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#value": "'No'"  
},  
{  
    "@id": "_:b5",  
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParam",  
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#nssiName": {  
        "@id": "_:b25"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE\_Exp\_R1Slice\_reporting\_Param\_nsiId"  
    }  
},  
{  
    "@id": "_:b50",  
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingParam",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportingIntervalLeft": {  
        "@id": "_:b52"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE\_Exp\_R1Slice\_reporting\_Param\_interval"  
    }  
},  
{  
    "@id": "_:b51",  
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingParam",  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportingIntervalLeft": {  
        "@id": "_:b52"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE\_Exp\_R1Slice\_reporting\_Param\_interval"  
    }  
}
```

```
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportingEvent":  
{  
    "@id":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingIntervalExpired  
"  
},  
    "@id":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_repor  
ting_Param_event"  
    }  
},  
{  
    "@id": "_:b52",  
    "@type": "http://www.w3.org/2006/time#Duration",  
    "http://www.w3.org/2006/time#numericDuration": "'0'",  
    "http://www.w3.org/2006/time#temporalUnit": {  
        "@id": "http://www.w3.org/2006/time#unitMinute"  
    }  
},  
{  
    "@id": "_:b6",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams",  
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#numberofUEs": {  
        "@id": "_:b26"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_ue"  
    }  
},  
{  
    "@id": "_:b7",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams",  
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#throughputUL": {  
        "@id": "_:b27"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_throughputUL"  
    }  
},  
{  
    "@id": "_:b8",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams",  
    "http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#throughputUL": {  
        "@id": "_:b29"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_Param_throughputDL"  
    }  
},  
{  
    "@id": "_:b9",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyParams",
```

```
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
    "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_Param_availability"
},
"http://www.sdo2.org/TelecomMetrics/Version_1.0#availability": {
    "@id": "_:b31"
}
},
{
    "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_delivery_report",
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#DeliveryExpectationReport",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#paramsCompliant": {
        "@id": "_:b1"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
        "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_delivery"
    },
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#targetReport": {
        "@id": "http://www.operator.org/Inventory#Resource_slice_eMBB_000001"
    }
},
{
    "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_property_report",
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#PropertyExpectationReport",
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#paramsCompliant": [
        {
            "@id": "_:b3"
        },
        {
            "@id": "_:b4"
        },
        {
            "@id": "_:b5"
        },
        {
            "@id": "_:b6"
        },
        {
            "@id": "_:b7"
        },
        {
            "@id": "_:b8"
        },
        {
            "@id": "_:b9"
        },
        {
            "@id": "_:b10"
        }
    ]
}
```

```
        "@id": "_:b11"
    },
    {
        "@id": "_:b12"
    },
    {
        "@id": "_:b13"
    },
    {
        "@id": "_:b14"
    },
    {
        "@id": "_:b15"
    },
    {
        "@id": "_:b16"
    },
    {
        "@id": "_:b17"
    },
    {
        "@id": "_:b18"
    },
    {
        "@id": "_:b19"
    },
    {
        "@id": "_:b20"
    },
    {
        "@id": "_:b21"
    }
],
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#paramsDegraded": {
    "@id": "_:b2"
},
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
    "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope
rty"
},
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#targetReport": {
    "@id": "http://www.operator.org/Inventory#Resource_slice_eMBB_000001"
},
{
    "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_repor
ting",
    "@type": "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#ReportingExpectationRepo
rt",
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#paramsCompliant": [
    {
        "@id": "_:b50"
    },
    {
        "@id": "_:b51"
    }
],
"http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {
```

```
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_repor  
ting_report"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#target": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#R1_PSE_Res_Slice_Inte  
nt1"  
    }  
},  
{  
    "@id":  
    "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#R1_PSE_Res_Slice_Inte  
nt1_Report_1",  
    "@type":  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#IntentReport",  
  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#currentIntentHandlingSta  
te": {  
        "@id":  
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateDegraded"  
    },  
  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#currentIntentUpdateState  
": {  
        "@id":  
        "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#StateNoUpdate"  
    },  
  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#hasExpectationReport": [  
        {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_deliv  
ery_report"  
        },  
        {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_prope  
rty_report"  
        },  
        {  
            "@id":  
            "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#PSE_Exp_R1Slice_repor  
ting_report"  
        }  
    ],  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportNumber":  
1,  
  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportTimestamp": {  
        "@id": "_:b0"  
    },  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#reportsAbout": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#R1_PSE_Res_Slice_Inte  
nt1"  
    },  
  
    "http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#intentHandler": {  
        "@id":  
        "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#IntentManagerABC_R"  
    },
```

```

@http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#intentOwner": {
    "@id": "http://www.example.org/IntentDrivenAutonomousNetworksCatalyst#IntentManagerXYZ_S"
},
"@http://www.w3.org/2000/01/rdf-schema#comment": "'Intent report'"
}
]
}
}

```

Turtle IntentReport ExpressionValue

This example illustrates the formation of the “expressionValue” as a 'string' using expressionLanguage of “Turtle” that would be included in an IntentReport GET response operation. This example represents an intent report for ordering connectivity using 5G slice. Please refer to TR290 (<https://projects.tmforum.org/wiki/display/PUB/TR290+Intent+Common+Model+v2.1.0>) for common intent information model used in this example.

```

@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix icm: <http://tio.models.tmforum.org/tio/v1.0.0/IntentCommonModel#> .
@prefix imo: <http://tio.models.tmforum.org/tio/v1.0.0/IntentManagementOntology#> .
@prefix pbi: <http://tio.models.tmforum.org/tio/v1.0.0/ProposalBestIntent#> .
@prefix cat: <http://www.operator.com/Catalog#> .
@prefix spot: <http://www.sdo1.org/Models/DynamicpriceOntology#> .
@prefix met: <http://www.sdo2.org/TelecomMetrics/Version_1.0#> .
@prefix t: <http://www.w3.org/2006/time#> .
@prefix idan: <http://www.idan-tmforum-catalyst.org/IntentDrivenAutonomousNetworks#> .

@prefix iv: <https://tmforum.org/2021/07/intentValidity#> .
@prefix itv: <https://tmforum.org/2021/07/intentTemporalValidity#> .
@prefix cem: <http://tio.labs.tmforum.org/tio/v1.0.0/CatalystExtensionModel#> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix sli: <http://io.irc.huawei.com/Io/v1.0.0/SliceExtensionModel#> .

# --- Intent -----
idan:R1_PSE_Res_Slice_Intent1
a icm:Intent ;
  rdfs:comment "'Intent for ordering connectivity via slice'";
  imo:intentOwner idan:IntentManagerXYZ_S;
  cem:layer "'resource'";
  icm:hasExpectation idan:PSE_Exp_R1Slice_delivery,
    idan:PSE_Exp_R1Slice_property,
    idan:PSE_Exp_R1Slice_reporting;

##Delivery Expectation
idan:PSE_Exp_R1Slice_delivery
a icm:DeliveryExpectation ;
  icm:target _:resource_slice ;
  icm:params idan:PSE_Exp_R1Slice_delivery_Param_type;

idan:PSE_Exp_R1Slice_delivery_Param_type
a icm:DeliveryParam ;
  icm:targetDescription cat:Slice_NEST_eMBB;

##Property Expectation
idan:PSE_Exp_R1Slice_property

```

```
a icm:PropertyExpectation ;
  icm:target _:resource_slice ;
  icm:params idan:PSE_Exp_R1Slice_property_Param_nssiId ,
    idan:PSE_Exp_R1Slice_property_Param_nssiName ,
    idan:PSE_Exp_R1Slice_property_Param_nsiId ,
    idan:PSE_Exp_R1Slice_property_Param_latency

.
  idan:PSE_Exp_R1Slice_property_Param_nssiId
  a icm:PropertyParams ;
    sli:nssiId [ icm:value "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"^^xsd:string ]
  ;

.
  idan:PSE_Exp_R1Slice_property_Param_nssiName
  a icm:PropertyParams ;
    sli:nssiName [ icm:value "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"^^xsd:string ]
  ;

.
  idan:PSE_Exp_R1Slice_property_Param_nsiId
  a icm:PropertyParams ;
    sli:nsiId [ icm:value "'NEST-EMBB_VIDEOSTREAMING_INSIDE_VENUE_5G'"^^xsd:string ]
  ;

.
  idan:PSE_Exp_R1Slice_property_Param_latency
  a icm:PropertyParams ;
    met:latency [ icm:atMost "'12 ms'" ] ;

.

##Reporting Expectation
idan:PSE_Exp_R1Slice_reporting
  a icm:ReportingExpectation ;
    icm:target idan:R1_PSE_Res_Slice_Intent1 ;
    icm:params idan:PSE_Exp_R1Slice_reporting_Param_interval ,
      idan:PSE_Exp_R1Slice_reporting_Param_event ;

.
  idan:PSE_Exp_R1Slice_reporting_Param_interval
  a icm:ReportingParam ;
    icm:reportingInterval [ a t:Duration ;
      t:numericDuration "'10'" ;
      t:temporalUnit t:unitMinute ] .

idan:PSE_Exp_R1Slice_reporting_Param_event
  a icm:ReportingParam ;
    icm:reportingEvent icm:ReportingIntervalExpired ,
      icm:IntentRejected ,
      icm:StateComplies ,
      icm:StateDegrades ,
      icm:HandlingEnded ,
      icm:UpdateRejected ,
      icm:UpdateFinished ;
```

Acknowledgements

Release History

| Release Number | Date | Release led by: | Description |
|----------------|------------|--|--|
| V4.0 | July 2021 | Kamal Maghsoudlou/Ericsson, Kevin McDonnell/Huawei | 1st release of the API |
| v5.0 | March 2024 | Kamal Maghsoudlou/Ericsson | migrated to OAS 3.0, added intent Specification REST resource, added priority and bundling support |

Contributors to Document

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